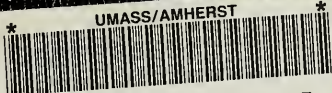
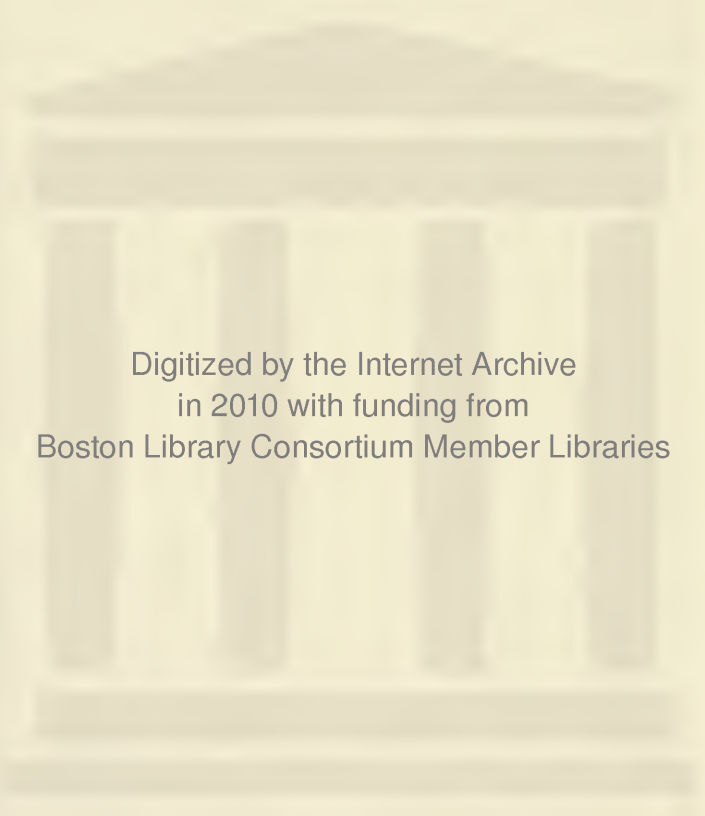


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The Commonwealth of Massachusetts

THIRTEENTH ANNUAL REPORT OF THE DEPARTMENT OF PUBLIC WORKS

YEAR ENDING NOVEMBER 30, 1932

*To the Honorable Senate and House of Representatives of the
Commonwealth of Massachusetts*

In accordance with the provisions of law, I have the honor, as Commissioner of Public Works, to submit the thirteenth annual report of the Department of Public Works for the year ending November 30, 1932.

The organization of the Department, as defined in chapter 16, General Laws, as amended by chapter 297, Acts of 1927, was as follows:—

Commissioner of Public Works, FRANK E. LYMAN.

Associate Commissioner, RICHARD K. HALE.

Associate Commissioner, HERMAN A. MACDONALD.

The Department has completed during the year many of the projects inaugurated during the previous year under the provisions of the special legislation, chapter 221, Acts of 1931, which made possible the employment of many men on highway work.

The mileage of new State highways laid out during the year amounted to 57.17 miles, but there were abandoned or discontinued 16.21 miles of State highways, so that the net mileage of State highways amounted to 1,810.63 miles at the end of the year.

The Department has constructed, reconstructed and widened 85.041 miles of State highways and built 156.648 miles of roads in cooperation with cities, towns and counties under the provisions of chapter 90, General Laws, and, in addition has constructed 62.902 miles of highways under the provisions of Special Acts. Under the provisions of section 26, chapter 81, General Laws, the Department has had charge of the repair and maintenance of 8,830 miles of public ways, exclusive of State highways in 178 towns.

In accordance with the provisions of chapter 122, Acts of 1931, which provided for the construction of an office building to accommodate the activities of the Department, including the executive and engineering offices, as well as the Registry of Motor Vehicles, a contract was executed with the F. V. Warren Co., of Philadelphia, Penn., for the erection of the building. The work of construction was carried on under the supervision of the Architect, Edward T. P. Graham, of Boston. A supplementary appropriation, Chapter 21, Acts of 1932, provided sufficient additional funds so that a portion of the facing of the building is of Massachusetts granite. The Department believes that this building will satisfactorily provide for its activities and that the concentration of the various subdivisions into one location with adequate space and light will insure more efficient operation.

The engineering and clerical staff of the Department was as follows:—

Chief Engineer, ARTHUR W. DEAN.

Highway Engineer (Projects), FRANKLIN C. PILLSBURY.

Highway Engineer (Construction), RAYMOND C. COBURN.

Highway Engineer (Maintenance), GEORGE H. DELANO.

Bridge Engineer, GEORGE E. HARKNESS.

District Highway Engineers:—

District No. 1, GEORGE A. CURTIS, — Berkshire County and the towns of Worthington, Middlefield and Huntington in Hampshire County, and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2, H. D. PHILLIPS, — Franklin, Hampshire and Hampden Counties, with the following exceptions: three towns in Hampshire County included in District No. 1 and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON, — Worcester County and the towns Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN, — Middlesex County.

District No. 5, JAMES E. LAWRENCE, — Essex and Suffolk Counties.

District No. 6, H. O. PARKER, — Norfolk and Bristol Counties.

District No. 7, H. C. HOLDEN, — Plymouth, Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer, for Boston Harbor, — JOHN N. FERGUSON.

District Waterways Engineer, for harbors and waterways outside Boston harbor, FRANCIS L. SELLEW.

Secretary, MARY A. RILEY.

Financial Secretary, FRED FAIR.

Registry of Motor Vehicles

Registrar, MORGAN T. RYAN.

Deputy Registrar, ANTHONY A. BONZAGNI.

Assistant to the Registrar of Motor Vehicles, ALFRED W. DEVINE.

Chief Administrative Clerk, CHARLES R. GILLEY.

Chief Inspector of Motor Vehicles, ALBERT S. OLSSON.

A detailed report of the activities of the Department for the year is presented herewith.

FRANK E. LYMAN,

December 1, 1932.

Commissioner of Public Works.

SPECIAL REPORTS TO THE LEGISLATURE

The Department was authorized and directed by the Legislature to make certain investigations, and the reports thereon were made as follows:—

The construction and improvement of certain highways within and near the Metropolitan Parks District. Report made Dec. 1, 1931, by the Department of Public Works, under chapter 38, Resolves of 1931. (Senate 43 of 1932).

New bridge over Saugus River between the city of Revere and the city of Lynn. Report made Dec. 1, 1931, by the Department of Public Works, under chapter 51, Resolves of 1931. (House 478 of 1932).

Construction of a bridge over the Weymouth Fore River. Report made Dec. 1, 1931, by the Department of Public Works, under chapter 54, Resolves of 1931. (Senate 42 of 1932).

Reconstructing Fox Hill Bridge over Saugus River between Saugus and Lynn. Report made Dec. 1, 1931, by the Department of Public Works, under chapter 56, Resolves of 1931. (House 479 of 1932).

Construction of a breakwater or other protection for the shores of the town of Winthrop. Report made Dec. 1, 1931, by the Department of Public Works, under Order of Senate adopted June 1, 1931. (Senate 41 of 1932).

Proposed connecting links between existing state highways. Report made Dec. 1, 1931, by the Department of Public Works, under chapter 32, Resolves of 1931. (House 42 of 1932).

Public access to Lake Marguerite, or Simon's Pond, in the town of Sandisfield. Report made Mar. 3, 1932, by the Department of Public Works, under chapter 453, Acts of 1923. (House 1220 of 1932).

Making of surveys and preparation of plans and estimates of cost of a grade separation at the intersection of the riverway and Huntington avenue in the city of Boston. Report made Dec. 1, 1931, by the Department of Public Works, under chapter 450, Acts of 1931. (House 480 of 1932).

RECOMMENDATIONS FOR LEGISLATION

The Commissioner of Public Works presented to the State Secretary on Dec. 2, 1932, as required by law, that part of the current annual report which contains recommendations or suggestions for legislative action as follows:—

1. The Department recommends legislation to facilitate the matter of making alterations of grade crossings which are in direct continuation of a State highway or of a proposed State highway.

2. The Department also recommends legislation to facilitate the matter of laying out of new State highways across railroads already constructed, subject to approval by the Department of Public Utilities.

3. In order that the Department may have a legal check on the weight of broken stone and other material for delivery on highway contracts, the Department recommends legislation to provide that the weights and measures officials be provided with specific authority to direct a truck transporting such material to a particular scale for weighing.

4. In order to insure that the records of the Registrar of Motor Vehicles shall be used principally, in so far as the public is concerned, for their protection in recovering damages after accidents and related matters, and by governmental agencies in the collection of taxes and the enforcement of the laws, certain procedure is recommended regarding their use, and provision made that fees may be charged for information requested.

5. The Department recommends legislation to clarify the law relating to the amount of the fee to be charged for the registration of motor vehicles used by the Commonwealth or any political subdivision thereof, so that the fee of \$2 will apply to automobiles and trailers, but not to motor cycles, the fee for which is defined as \$1.50.

6. The Department believes that the law defining "way" as applied to the operation of motor vehicles should be defined as any public highway, private way laid out under authority of statute, way dedicated to public use, way under control of park commissioners, or any place to which the public has a right of access.

7. In order to avoid delay, and to simplify the procedure in promptly removing unsafe vehicles from the highway, provision should be made for the suspension as well as revocation of registrations.

8. In order to reduce the hazards of highway operations the Department recommends legislation to require rear end reflecting devices on certain trucks, a device to indicate to the driver of a vehicle whether or not headlights are functioning, and to prohibit the use of red lights in the direction in which the vehicle is facing.

APPROPRIATIONS

Chapter 170, Acts of 1932, making appropriations for the maintenance of Departments, Boards, Commissions, Institutions and certain activities of the Commonwealth, etc., is, in part, as follows:

Requirements for Extinguishing the State Debt

Item

214. For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of nine hundred sixteen thousand one hundred thirty-two dollars and forty-nine cents, payable from the following accounts and funds in the following amounts:—from the surplus of sinking fund revenue, one hundred fifty-five thousand dollars; from the Highway Fund, two hundred thirty-nine thousand one hundred thirty-two dollars and fifty cents; and the remainder from the General Fund

\$916,132 49

214a. To meet one fourth of the expenditures authorized

by sections one and two of chapter one hundred and twenty-two of the acts of nineteen hundred and thirty-one, and already in the main incurred, which is the proportionate part intended to be ultimately met by the commonwealth during the current fiscal year, thereby reducing by the sum hereby appropriated the amount that may be borrowed under section three of said chapter, without otherwise affecting the authority to borrow under said section three the remainder of the amount authorized to be borrowed thereunder, the sum of two million one hundred and twenty-five thousand dollars, the same to be paid from the Highway Fund 2,125,000 00

Interest on the Public Debt

215. For the payment of interest on the direct debt of the commonwealth, a sum not exceeding seven hundred ninety-eight thousand four hundred twenty-seven dollars and twenty-five cents, of which sum two hundred fifty-six thousand three hundred sixty-three dollars and seventy five cents shall be paid from the Highway Fund 798,427 25

Service of the Department of Banking and Insurance

Division of Insurance:

298. For other personal services of the division, including expenses of the board of appeal and certain other costs of supervising motor vehicle liability insurance, a sum not exceeding one hundred ninety thousand four hundred dollars, of which sum not more than thirty-five thousand dollars may be charged to the Highway Fund 190,400 00

Service of the Department of Corporations and Taxation

Corporation and Tax Divisions:

305. For the salaries of certain positions filled by the commissioner, with the approval of the governor and council, and for additional clerical and other assistance, a sum not exceeding two hundred twenty-eight thousand seven hundred dollars, of which sum not more than fifty thousand dollars, may be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so-called 228,700 00

Service of the Department of Public Safety

Division of State Police:

561. For the salaries of officers, including detectives, a sum not exceeding four hundred thirty-seven thousand two hundred dollars, of which sum not more than one hundred thirty-eight thousand five hundred and twenty dollars may be charged to the Highway Fund 437,200 00
563. For other necessary expenses of the uniformed division, a sum not exceeding three hundred ninety-one thousand one hundred dollars, of which sum not more than one hundred sixty-five thousand four hundred and sixty dollars may be charged to the Highway Fund 391,100 00

Item

Service of the Department of Public Works

The appropriations made in the following three items are to be paid two thirds from the Highway Fund and one third from the Port of Boston receipts:

582.	For the salaries of the commissioner and the associate commissioners, a sum not exceeding nineteen thousand five hundred dollars	19,500 00
583.	For personal services of clerks and assistants to the commissioner, a sum not exceeding nine thousand and sixty dollars	9,060 00
584.	For traveling expenses of the commissioners, a sum not exceeding two thousand and forty dollars	2,040 00
Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):		
585.	For the personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding ninety thousand dollars	90,000 00
586.	For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, a sum not exceeding ten thousand five hundred dollars	10,500 00
587.	For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding twelve thousand dollars	12,000 00
588.	For the construction and repair of town and county ways, a sum not exceeding one million six hundred thousand dollars	1,600,000 00
589.	For aiding towns in the repair and improvement of public ways, a sum not exceeding one million four hundred fifty thousand dollars	1,450,000 00
590.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the purchase and improvement of a nursery for roadside planting, a sum not exceeding four million five hundred thousand dollars	4,500,000 00
591.	For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding four million one hundred thousand dollars	4,100,00 00
592.	For administering the law relative to advertising signs near highways, a sum not exceeding fifteen thousand dollars, to be paid from the General Fund	15,000 00

Registration of Motor Vehicles:

593.	For personal services, a sum not exceeding nine hundred seventy-one thousand dollars, of which sum ten thousand dollars may be charged to the General Fund, and the remainder shall be paid from the Highway Fund	\$971,000 00
594.	For services other than personal, including traveling	

Item

expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding five hundred sixty-six thousand dollars, to be paid from the Highway Fund

566,000 00

595. For printing and other expenses necessary in connection with publicity for certain safety work, a sum not exceeding fifteen hundred dollars, to be paid from the Highway Fund

1,500 00

Special:

596. For expenditures by the department of public works, as authorized by chapter four hundred and twenty of the acts of nineteen hundred and thirty, a sum not exceeding five hundred fifty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the Highway Fund

550,000 00

Functions of the department relating to waterways and public lands:

597. For personal services of the chief engineer and assistants, a sum not exceeding fifty-two thousand dollars

52,000 00

598. For services other than personal, including printing pamphlet of laws and the annual report, and for necessary office and engineering supplies and equipment, a sum not exceeding two thousand dollars

2,000 00

599. For the care and maintenance of the province lands and of the lands acquired and structures erected by the Provincetown tercentenary commission, a sum not exceeding forty-seven hundred dollars

4,700 00

600. For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds, a sum not exceeding twenty-two thousand five hundred dollars

22,500 00

601. For the improvement, development and protection of rivers and harbors, tide waters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, and of great ponds, a sum not exceeding seventy-five thousand dollars, and any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered

75,000 00

602. For re-establishing and permanently marking certain triangulation points and sections, as required by order of the land court in accordance with

Item

	section thirty-three of chapter ninety-one of the General Laws, as amended, a sum not exceeding one thousand dollars	1,000 00
603.	For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding five hundred dollars	500 00
604.	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred six thousand dollars, to be paid from the Port of Boston receipts	106,000 00
605.	For the maintenance of pier one, at East Boston, a sum not exceeding eight thousand dollars	8,000 00
606.	For the maintenance and improvement of commonwealth property, under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding eighty-five thousand dollars, to be paid from the Port of Boston receipts	85,000 00
607.	For the operation and maintenance of the New Bedford state pier, a sum not exceeding eleven thousand four hundred dollars	11,400 00
608.	For the compensation of dumping inspectors, a sum not exceeding one thousand dollars	1,000 00
609.	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding four thousand dollars	4,000 00
	Specials:	
610.	For dredging channels and filling flats, a sum not exceeding fifty thousand dollars, to be paid from the Port of Boston receipts and to be in addition to any amount heretofore appropriated for the purpose	50,000 00
611.	For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding thirty-eight hundred dollars	3,800 00
	The following items are to be paid from the Highway Fund, with the approval of the Metropolitan District Commission:	
633.	For maintenance of boulevards and parkways, a sum not exceeding five hundred fifty thousand dollars	550,000 00
634.	For resurfacing of boulevards and parkways, a sum not exceeding three hundred thousand dollars	300,000 00
635.	For the construction of certain boulevards by the Metropolitan district commission, as authorized by chapter four hundred and fifty of the acts of nineteen hundred and thirty-one, a sum not exceeding two hundred thousand dollars	200,000 00
636.	For the maintenance of Wellington bridge, with the approval of the metropolitan district commission, a sum not exceeding fifty-two hundred and twenty-five dollars	5,225 00

DEFICIENCIES

For deficiencies in certain appropriations of previous years, in certain items, as follows:

Department of Public Safety

Division of State Police:

- For other necessary expenses of the uniformed division, the sum of twenty thousand one hundred thirty-four dollars and forty-five cents, of which sum not more than eight thousand forty-eight dollars and thirty-seven cents may be charged to the Highway Fund 20,134 45

Department of Public Works

- For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the approval of the attorney general, and for care and repair of road-building machinery, for the years nineteen hundred and twenty-nine and nineteen hundred and thirty, the sum of three hundred twenty-five dollars and sixty-five cents, to be paid from the Highway Fund 325 65

Chapter 307, Acts of 1932, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows:—

Interest on the Public Debt

215. For the payment of interest on the direct debt of the commonwealth, a sum not exceeding one hundred thirty-four thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose; and sixty-five thousand dollars of this sum may be paid from the Highway Fund 134,000 00

Service of the Department of Public Works

585. For the personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding two thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the Highway Fund 2,000 00

Registration of Motor Vehicles:

593. For personal services, a sum not exceeding twelve hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the Highway Fund 1,200 00

Specials:

- 596a. For linoleum, furnishings and equipment for the new office building for the department of public works, a sum not exceeding fifty thousand dollars, to be paid from the Highway Fund 50,000 00

596b. (This item combined with item 653a.)

596c. (This item combined with item 653b.)

- 596d. For the construction of a bridge over Saugus river, as authorized by chapter two hundred and forty-one of the acts of the present year, a sum not ex-

	ceeding two hundred thousand dollars, to be paid from the Highway Fund and to be in anticipation of such further appropriations as are required to complete the work authorized by said chapter	200,000.00
596e. For	plans and other preliminary expenses for the construction of a bridge over Weymouth Fore river, as authorized by chapter thirty-two of the resolves of the present year, a sum not exceeding twenty-five thousand dollars, to be paid from the Highway Fund	25,000 00
596f. For	certain highway improvements in the city of Revere by the state department of public works, as authorized by chapter four hundred and forty-five of the acts of nineteen hundred and thirty-one, as amended by chapter two hundred and fifty-eight of the acts of the present year, at a cost not exceeding the total of one million three hundred and fifty-five thousand dollars, of which sum two hundred thousand dollars is hereby appropriated in anticipation of such further appropriations as are required to complete the work authorized by said chapters, to be paid from the Highway Fund. The department is hereby authorized to incur expenses from time to time, as may be required, within the sums authorized by said chapters. The appropriation for the current year is hereby allocated as follows:	
	For work authorized by section one of said chapter four hundred and forty-five	\$125,000 00
	For work authorized by section two of said chapter four hundred and forty-five	50,000 00
	For work authorized by section three of said chapter four hundred and forty-five	25,000 00

Functions of the Department relating to Waterways and Public Lands:

611a. For	dredging in Quincy bay, as authorized by chapter two hundred and twenty-two of the acts of the present year, a sum not exceeding six thousand dollars, payable from the General Fund, and in addition thereto the sum of three thousand dollars to be assessed upon the cities and towns of the metropolitan district as provided by law	9,000 00
611b. For	the construction of a shed on the New Bedford state pier, as authorized by chapter two hundred and seventy-three of the acts of the present year, a sum not exceeding seven thousand dollars	7,000 00
611c. For	the construction of a sluiceway between Gooseberry Neck island and the mainland in the town of Westport, as authorized by chapter two hundred and sixty-five of the acts of the present year, a sum not exceeding seventy-five hundred dollars	7,500 00
611d. For	the construction of a breakwater along the shore in the town of Winthrop, as authorized by chapter two hundred and fifty-six of the acts of the present year, in the following amounts:—seventy-five thousand dollars from the General	

Fund, twenty-five thousand dollars from the Highway Fund, and twenty-five thousand dollars to be assessed upon the cities and towns in the metropolitan district in accordance with the provisions of law 125,000 00

Unclassified Accounts and Claims

642. For the compensation of certain public employees for injuries sustained in the course of their employment, as provided by section sixty-nine of chapter one hundred and fifty-two of the General Laws, as amended, a sum not exceeding nine thousand dollars, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose 9,000 00
648. For the payment of claims authorized by certain resolves of the present year, a sum not exceeding fifteen thousand seven hundred eighty-two dollars and fifty-eight cents, of which sum thirty-three hundred and fifty-three dollars shall be charged to the Highway Fund. Said payments shall be certified by the comptroller of the commonwealth only upon the filing of satisfactory releases or other evidence that the payments are accepted in full compensation on the part of the commonwealth in respect thereto 15,782 58

OTHER APPROPRIATIONS

- 596g. For land damages and other expenses incidental to the laying out of a state highway extending from Alewife Brook parkway in the city of Cambridge through said city and certain towns, including Concord, as authorized by chapter three hundred and two of the acts of the present year, a sum not exceeding two hundred and seventy thousand dollars, to be paid from the Highway Fund and to be in anticipation of a further appropriation of two hundred and thirty thousand dollars to be made in the fiscal year nineteen hundred and thirty-three 270,000 00
633. For maintenance of boulevards and parkways, a sum not exceeding twenty-five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose, and to be paid from the Highway Fund with the approval of the metropolitan district commission 25,000 00

Service of the Department of Public Works

- For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the purchase and improvement of a nursery for roadside planting, the sum of six hundred seventy dollars and ninety-five cents, to be paid from the Highway Fund 670 95

Metropolitan District Commission

The following items are to be assessed upon the several districts in accordance with the methods fixed by law, unless otherwise provided, and are to be expended under the direction and with the approval of the metropolitan district commission:

- | | | |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| 653a. | For the reconstruction of the junction of South Border road, Forest street, and Fellsway West in the city of Medford, as authorized by chapter two hundred and seven of the acts of the present year, a sum not exceeding thirty thousand dollars, of which sum fifteen thousand dollars shall be paid from the Highway Fund | 30,000 00 |
| 653b. | For the reconstruction of the existing roadway along the Nantasket beach reservation in the town of Hull, as authorized by chapter two hundred and ten of the acts of the present year, a sum not exceeding thirty thousand dollars, and the remainder shall be paid from item 634 of chapter one hundred and seventy of the acts of the present year | 30,000 00 |

Department of Public Works

The sum authorized by chapter two hundred and forty-three of the acts of the present year to be paid to certain towns is hereby increased by the sum of twenty-eight hundred and fifty dollars, which is payable from item 589 of chapter one hundred and seventy of the acts of the present year.

A transfer in the sum of one hundred and fifty thousand dollars is hereby made from item 588 of chapter one hundred and seventy of the acts of the present year, and said sum is hereby added to item 590 of said chapter one hundred and seventy. The department of public works, in the event that certain property located on D street in South Boston is sold for commercial purposes, may construct a building to be used as a garage at an expense not exceeding one hundred thousand dollars.

FINANCIAL STATEMENTS

Summary of Income, Year Ending November 30, 1932

HIGHWAY FUND

*Section 34, Chapter 90, General Laws, as amended**(See Chapter 288, Acts of 1925.)*

Fees (for registration of motor vehicles, licenses to operate, etc.) and fines (penalties, Sundry Courts), gross receipts	\$6,409,425 22	
Gasoline tax, gross	16,942,343 49	
Contributions for highways and assessments (G. L., Ch. 81)	359,493 87	
Appropriation balances of previous years reverting	50,387 05	
Contributions and refunds	63,666 48	
Sale of old materials and buildings	3,194 46	
Reimbursement for repairs to guard rail and other property	5,927 40	
Rent of property	75 00	
		\$23,834,512 97
Less refunded receipts		362,482 67
		<hr/> \$23,472,030 30

PORT OF BOSTON FUND

(Chapter 91, General Laws)

Rents (leases and permits)	\$206,504 28	
Reimbursement for services (inspection of dumping dredged material in Boston Harbor)	2,209 17	
Use of Commonwealth Pier No. 5 (wharfage, dockage, rentals, etc.)	194,098 83	
Use of Commonwealth Pier No. 1 (rentals, etc.)	318 23	
Use of Hayward Creek Property (rentals)	16 00	
Revenue from permits for dumping dredged material at receiving basins	5,885 55	
License charges (for tidewater displacement and occupying Commonwealth tide lands) Boston Harbor	67,227 56	
Telephone pay station receipts	83 81	
Sales of land and Building D St. Garage (partial payment)	39,000 00	
Sales of Boston Harbor maps	75	
Sundries	98 12	
Coal Penalties	22 88	
Appropriation balances of previous years reverting	578 64	
		<hr/> \$516,043 82

DEPARTMENT INCOME

(Ordinary Revenue)

Reimbursement for services (heating D Street Building)	\$149 68
Sales (specifications and plans for contracts)	924 25
Interest on Bank accounts	842 36
Aircraft licenses	555 00

Reimbursement for services (inspection of dumping dredged material outside of Boston Harbor, ch. 196, Acts of 1925)	125 19	
License charges (for tidewater displacement and occupying Commonwealth tide lands) outside of Boston Harbor	1,732 99	
Certified copying charges	100 06	
Sale of Atlas sheets and miscellaneous plans	629 95	
Use of Province Lands (S. 25, C. 91, G. L.)	196 15	
Permits for advertising signs	13,598 87	
Use of New Bedford State Pier	14,460 09	
Reimbursement a/c removal of wreck	9,000 00	
		<u>\$42,314 59</u>

IMPROVEMENT OF RIVERS AND HARBORS TRUST

(Sections 11, 29, chapter 91, General Laws)

Contributions from towns, individuals or others	\$45,200 00
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HIGHWAY TRUST

(Section 30, Chapter 81, General Laws)

Federal Aid (Reimbursement from United States Government)	2,239,234 98	
<i>Funds Contributed for Work under Special Acts</i>		
Geological Survey Trust Fund (Chapter 138, Acts of 1932). Contributions from individuals	2,520 00	
Total		<u>\$26,317,343 69</u>

Expenditures

The expenditures by the Department under the provisions of General Laws and other acts and the appropriation acts, chapters 170 and 307, Acts of 1932, during the fiscal year ending Nov. 30, 1932, were as follows:

ADMINISTRATIVE

Commissioners, Associate Commissioners, personal services of clerks, stenographers, and commissioners' travel	\$30,155 00	
Public Works Department Building, land and services	955,959 05	
		<u>\$986,114 05</u>

RELATING TO HIGHWAYS

<i>Personal Services</i> —Chief Engineer, clerks and stenographers	\$91,107 12	
<i>State Highways</i> —Construction (Chapter 81, G. L.)		
General Contract Work	\$2,199,899 94	
Engineering (Supervision)	676,817 04	
Rent of offices, Commonwealth Pier 5	7,200 00	
Highway Testing Laboratory	16,991 44	
Hingham—Hull (Chapter 119, Acts of 1931)	173,824 67	
		<u>3,074,733 09</u>
<i>Maintenance and Repair of State Highways</i> (Chapter 81, General Laws)		
<i>Reconstruction of State Highways</i>		
General Contract Work	3,047,654 84	
Engineering, supervision on reconstruction	425,777 36	
		<u>3,473,432 20</u>

Ordinary Maintenance

General Maintenance	1,517,974 63	
Engineering (supervision)	318,996 63	
Highway Testing Laboratory	11,717 90	
Care and repair of road building machinery	174,575 48	
Removal of snow from highways	429,933 53	
Roadside planting and development	69,615 86	
Traffic engineering, signs and traffic count	189,144 04	
Paint Manufacture	24,183 94	
Newburyport Bridge, Salisbury-Newburyport over Merrimack River, maintenance and operation	6,839 12	
Brightman St. Bridge, Fall River-Somerset, maintenance and operation	13,225 34	
New Bedford-Fairhaven Bridge, Acushnet River (Chapter 426, Acts of 1930)	18,176 50	
Route and detour maps	3,868 70	
Rent for offices at Commonwealth Pier 5	7,200 00	
Rent for offices at D Street	11,250 00	
Construction of D Street Garage	26,492 70	
Heating plant at D Street	1,880 20	
		2,825,074.57
<i>Construction and Repair of Town and County Ways</i> (Section 34, Chapter 90, General Laws)		
State's expenditures for work contracted for in cities and towns	1,447,854 60	
Engineering and expense (supervision)	376,665 36	
Rent of offices, Commonwealth Pier 5	3,600 00	
		1,828,119 96
<i>Aiding Towns in the Repair and Improvement of Public Ways</i> (Section 26, Chapter 81, General Laws, as amended.)		
State's expenditures for work contracted for in cities and towns	908,724 99	
Engineering and expense (supervision)	84,639 22	
		993,364 21
<i>Special Acts:</i>		
Expenditures under the provisions of Chapter 122, Acts of 1931		4,391,619 84
Distribution of gasoline tax to towns receiving aid under the provisions of Section 4, Chapter 122, Acts of 1931, as amended by Chapter 243, Acts of 1932		5,500,000 00
Distribution of gasoline tax to towns receiving aid under the provisions of Section 4, Chapter 122, Acts of 1931, as amended by Chapter 243, Acts of 1932 (Sec. 26, Chap. 81)		459,150 00
Incidentals (printing, postage, supplies, etc.)		10,297 19
Advertising signs, regulation of personal services and expenses		15,049 38
Southern Traffic Route Construction (Chapter 330 and 344, Acts of 1925 and Section 4, Chapter 369 and 398, Acts of 1926)		217 68

<i>Expenditures in the Western Counties</i> under Chapter 221, General Acts of 1915 and Chapter 572, Acts of 1920		916 18
<i>Highways in Malden, Braintree, Weymouth and Hingham</i>		
Hingham, Braintree and Weymouth		9,862 85
<i>Highways on Metropolitan District</i> (Chap- ter 420, Acts of 1930, as amended by Chapter 450, Acts of 1931)		
Section 1. Canton, Dedham, Wellesley, etc.	850,285 51	
Section 2. Canterbury Street, Boston	480,564 31	
Section 3. Landtaking-Neponset River, Milton	140,026 13	
Section 4. West Roxbury-Brookline Parkway	783,758 60	
Section 5. Broadway, Revere Beach Parkway-grade separation, Everett	140 00	
		<hr/> 2,254,774 55
<i>Abolition of Grade Crossings</i> (Chapter 417, Acts of 1930)		177,271 24
<i>Plans for New Saugus River Bridge</i> (Re- solves 51, Chapter 460, Acts of 1931)		2,419 17
<i>Study Weymouth Fore River Bridge</i> (Re- solves 54, Chapter 460, Acts of 1931)		457 60
<i>Plans for Weymouth Fore River Bridge</i> Chapter 32, Resolves of 1932)		4,320 45
<i>Construction of Saugus River Bridge</i> (Chapter 241, Acts of 1932)		4,315 64
<i>Expenditures under Chapter 258, Acts of 1932.</i>		
Section 1. State Highway, Revere	16,579 06	
Section 2. Boston-Revere	3,128 62	
Section 3. Ocean Ave., Revere	1,511 84	
		<hr/> 21,219 52
<i>Alewife Brook Parkway Extension</i> (Chap- ter 302, Acts of 1932)		22,465 17
<i>Suppression of gypsy and brown-tail moths</i> on State Highways in cities and towns		11,825 93
<i>Total Expenditures for Highways</i>		<hr/> \$25,172,013 54

EXPENDITURES RELATING TO THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles	\$1,518,340 68
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SUMMARY OF EXPENDITURES RELATING TO WATERWAYS

General Expenses	\$53,304 80
<i>Boston Harbor:</i>	
Maintenance and operation, Commonwealth Pier 1, East Boston	7,821 80
Maintenance and operation, Commonwealth Pier 5, South Boston	99,078 46
Maintenance of property	109,380 02
Dredging and filling	46,747 53
Streets, piers and railroads	6,224 38
Removal of hulks, East Boston (Ch. 465, Acts of 1931)	64,932 46
<i>Outside of Boston Harbor:</i>	
Improvement of rivers and harbors	79,415 77
Repairing damages to shore	26,399 21
New Bedford State Pier, operation and maintenance	10,828 29

Construction and alterations	7,361 70
Construction of steel shed (Ch. 273, Acts of 1932)	6,286 09
Expenses of province lands	4,698 79
Expenses of Plymouth property	4,248 44
Topographical survey	990 40
Stream gauging	4,000 00
Surveying state and town boundaries	324 00
Compensation for services of dumping inspectors	478 24
Chapter 407, Acts of 1931, Marshfield shore protection	84,547 84
Chapter 424, Acts of 1931, Scituate shore protection	17,326 96
Long Beach, Rockport	7,390 57
Chapter 405, Acts of 1931, Taunton River Improvement	960 22
Chapter 441, Acts of 1931, Construction of Pier, Cape Cod Canal	170,893 32
Chapter 138, Acts of 1930, Geological survey	
Trust Fund	290 10
	<hr/>
	\$813,929 39

SUMMARY OF EXPENDITURES BY DEPARTMENT
FOR YEAR ENDING NOVEMBER 30, 1932

Administrative	\$986,114 05
Relating to Highways	25,172,013 54
Registry of Motor Vehicles	1,518,340 68
Relating to Waterways	813,929 39
	<hr/>
Total	\$28,490,397 66

COOPERATIVE WORK — SUPERVISION OF EXPENDITURES

The Department has supervised the expenditures during the year by cities, towns and counties, under chapter 81, General Laws, as amended, of approximately \$2,707,176.77 for cooperative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Department.

RELATING TO HIGHWAYS

GENERAL STATEMENT

State Highways.—During the year ending Nov. 30, 1932, the Department laid out new State highways amounting to 57.17 miles in 30 cities and towns. Under chapter 81, General Laws, as amended by chapter 427, Acts of 1931, 16.21 miles of State highways were discontinued or abandoned. The total length of State highways at the end of the year was 1,810.63 miles.

Highways Constructed in 1932.—Construction has been completed on 12.025 miles of State highways, 156.648 miles of highways under the provisions of section 34, chapter 90, General Laws, as amended, and 62.902 miles of highways under the provisions of special acts, making a total of 231.575 miles completed during the year.

Of the above highways completed this year, the classification according to type of pavement is as follows:—30.720 miles of reinforced cement concrete; 5.604 miles of sheet type cement concrete; 3.888 miles of dual (reinforced concrete and bituminous macadam); 76.429 miles of bituminous macadam; 3.536 miles of bituminous concrete; 50.549 miles of bituminous type concrete (mixed in place); 0.625 mile of "Temperature Resisting" concrete; 40.657 miles of gravel with a bituminous treatment; 19.575 miles of gravel.

Resurfacing, Reconstruction and Widening of State Highways.—During the year 11.786 miles of State highways were widened but not re-

surfaced, and 61.230 miles were resurfaced or reconstructed and widened. In addition to this work on which the surfacing has been completed, there are several miles of road in various stages of completion which are scheduled to be completed next year.

The resurfacing or reconstruction of State highways in 1932 was divided into types as follows:—1.371 miles of reinforced cement concrete; 2.693 miles of dual type (reinforced concrete and bituminous macadam); 43.622 miles of bituminous macadam; 13.090 miles of bituminous concrete; 0.454 miles of gravel with a bituminous treatment.

Surveys, Plans, and Estimates.—During the year ending Nov. 30, 1932, preliminary surveys, plans and estimates were made as follows:

For State Highway Construction.—Preliminary surveys in 24 towns, 42.590 miles; plans in 28 towns, 51.914 miles; preliminary estimates in 26 towns, 52.538 miles; lines and grades in 40 towns, 55.003 miles; and final surveys in 44 towns, 60.307 miles.

For State Highway Reconstruction and Resurfacing.—Preliminary surveys in 21 towns, 52.335 miles; Plans in 32 towns, 55.819 miles; Preliminary estimates in 28 towns, 69.778 miles; lines and grades in 30 towns, 70.627 miles, and final surveys in 33 towns, 77.771 miles.

Under Section 34, Chapter 90, General Laws, as amended:—Preliminary surveys in 120 towns, 169.553 miles; plans in 119 towns, 166.991 miles; preliminary estimates in 110 towns, 78.588 miles; lines and grades in 114 towns, 179.859 miles; and final surveys in 65 towns, 77.398 miles.

Under the provisions of various Acts and Resolves, surveys, plans, estimates, lines and grades, and final surveys were made as follows:

Chapter 420, Acts of 1930, Section 1:—11.053 miles of lines and grades, and final surveys in 5 towns.

Chapter 420, Acts of 1930, Section 2:—2.064 miles of preliminary survey and plans, lines and grades, and final survey in 1 city.

Chapter 420, Acts of 1930, Section 3:—0.568 miles of reconnaissance survey and plans in 1 town.

Chapter 420, Acts of 1930, Section 4:—2.710 miles of lines and grades, and final survey in 1 city and 1 town.

Chapter 445, Acts of 1931, Section 1:—0.634 miles of survey and plans in 1 city; 0.919 miles of estimate and lines and grades in 1 city.

Chapter 445, Acts of 1931, Section 2:—0.344 miles of reconnaissance survey and plans in 1 city; 0.277 mile of preliminary survey and plans in 1 city; 0.645 mile of estimate in 1 city.

Chapter 445, Acts of 1931, Section 3:—0.116 mile of preliminary survey in 1 city; 0.487 mile of estimate in 1 city.

Chapter 302, Acts of 1932: 14.4 miles of survey and plans in 1 city and 4 towns.

Chapter 51, Resolves of 1931: 0.505 mile of estimates and lines and grades in 2 cities.

Chapter 32, Resolves of 1932: 0.72 mile of reconnaissance survey and plans in 1 city and 1 town.

Grade Crossing Elimination.—Chapter 417, Acts of 1930:—0.541 mile of lines and grades and final survey in 1 town.

Reconnaissance.—117 miles of survey and plans in 34 towns; 27 miles of estimate in 11 towns and 2 cities.

Chapter 90 Reconnaissance.—23 miles of surveys and plans in 10 towns.

Precise Levels have been made, covering 460 miles in 40 towns; 45 Bench Mark disks have been set in 28 towns.

Plans to accompany decrees for street railway locations on State highways have been made in 1 town.

Permits.—There were 1,991 permits issued during the year for opening or occupying State highways for various purposes.

Engineering Advice to Municipal Authorities.—The Department furnished engineering advice without charge to 47 cities and towns in accordance with the provisions of Section 1, Chapter 81, General Laws.

Approval of Specifications.—The Department approved during the year, under the provisions of section 7, chapter 44, General Laws, as amended, specifications for the construction of roads in 13 towns and cities.

Approval of Bridge Plans.—The Department approved during the year, under the provisions of chapter 313, Acts of 1923, plans for the construction of bridges in 9 towns and cities.

PETITIONS, MEETINGS AND HEARINGS

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, Chapter 81, General Laws; hearings on appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 81 cases; on the refusal of the Registrar of Motor Vehicles to register a glider; on the matter of special regulations for motor vehicles in Revere, Milton, Framingham, Braintree, Cambridge and Springfield; on the matter of outdoor advertising in 4 towns and cities; on a petition for the relocation of street railway tracks in Worcester; on the matter of inspecting motor vehicles, trailers and school buses under the provisions of Chapter 271 of the Acts of 1932; in the matter of a geological survey under the provisions of Chapter 138 of the Acts of 1932; on a matter governing the use and operation of gliders under the provisions of Section 58, Chapter 90; and on the abolition of grade crossings in Walpole, Sharon, Belmont, Medford, and Lynn.

Petitions were received and contracts signed during the year as follows:

	Petitions	Contracts
State highways	26	52
Work under section 34, chapter 90, General Laws, as amended		327
Work under section 26, chapter 81, General Laws, as amended	179	179
Work under Special Acts		3
Miscellaneous		16
Total	205	577

STATE HIGHWAYS

PETITIONS FOR STATE HIGHWAYS

General Laws, chapter 81, section 4, as amended, provides that —

“If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city or town, they may apply, by a written petition, to the division, requesting that said way be laid out and taken charge of by the Commonwealth.”

Petitions under the aforesaid section have been received during the year, as follows:—

SELECTMEN OF WESTWOOD: — Road extending from a point on the dividing line between the towns of Norwood and Westwood about 1,900 feet east of Ellis Station northerly, over a new location, to a point on the dividing line between the towns of Westwood and Dedham, near the Islington Branch of the New York, New Haven & Hartford Railroad. Received Dec. 5, 1931.

SELECTMEN OF WEST SPRINGFIELD: — Road locally known as Westfield Street, extending from its junction with Kings Highway southeasterly to its junction with Summit Street. Received Dec. 2, 1931.

SELECTMEN OF PALMER: — Road locally known as Thorndike Street, ex-

- tending from Main Street in Depot Village northerly to Lake Junction at its intersection with the River Road. Received Dec. 14, 1931.
- SELECTMEN OF EAST LONGMEADOW:** — Road locally known as South Main Street, extending from its junction with Chestnut Street southerly to the Somers, Conn., line. Received Dec. 10, 1931.
- SELECTMEN OF NORWOOD:** — Road extending from a point on Neponset Street at its junction with the 1931 State highway layout northerly, over a new location, to a point on the dividing line between the towns of Norwood and Westwood about 1,900 feet east of Ellis Station. Received Dec. 16, 1931.
- SELECTMEN OF BELCHERTOWN:** — Road locally known as Parker Road, extending from the new Ware Road northwesterly to the Amherst Road. Also road locally known as Enfield Road, extending from said new Ware Road southwesterly to the Amherst Road. Received Dec. 30, 1931.
- MAYOR AND ALDERMEN OF PITTSFIELD:** — Road extending from a point on Lebanon Avenue near the property now or formerly of Frank Smith, southwesterly, over a new location, to a point on said Lebanon Avenue easterly of the bridge over the Boston & Albany Railroad. Received Jan. 5, 1932.
- SELECTMEN OF MILTON:** — Road locally known as Randolph Avenue, extending from Reedsdale Road to Highland Street. Received Jan. 7, 1932.
- SELECTMEN OF BARNSTABLE:** — Road extending from a point on the new State highway leading from Marstons Mills to Hyannis, near Long Pond in Centerville, to a point on Iyanough Road. Received Dec. 3, 1931.
- MAYOR AND BOARD OF STREET COMMISSIONERS OF BOSTON:** — Road extending from Boardman Street northeasterly, over a new location, to the dividing line between the cities of Boston and Revere. Received Apr. 6, 1932.
- MAYOR AND COUNCIL BOARD OF REVERE:** — Road extending from the Revere Beach Parkway at or near Stowers Court southeasterly, over a new location, to the dividing line between the cities of Revere and Boston. Received Apr. 6, 1932.
- SELECTMEN OF WELLESLEY:** — Road locally known as Worcester Street, extending from the dividing line between the towns of Natick and Wellesley to the dividing line between the town of Wellesley and the city of Newton. Received Apr. 15, 1932.
- SELECTMEN OF WEST STOCKBRIDGE:** — Road extending from State Line easterly and southerly through West Stockbridge and Williamsville to the dividing line between the towns of West Stockbridge and Great Barrington. Received May 13, 1932.
- SELECTMEN OF BOURNE:** — Road extending from Trading Post Corner southerly, over a new location, to a point on the Falmouth Road about 1,000 feet north of the dividing line between the towns of Bourne and Falmouth. Received July 9, 1932.
- COUNTY COMMISSIONERS OF BRISTOL COUNTY:** — Road in the town of Dighton, locally known as Somerset Avenue, extending from station 24 of the 1906 State Highway layout northeasterly for about 2,400 feet to the dividing line between the town of Dighton and the city of Taunton at Three Mile River. Received July 26, 1932.
- SELECTMEN OF METHUEN:** — Road locally known as Broadway, extending from the junction of High Street and Broadway northwesterly to the Salem, New Hampshire, line. Received July 22, 1932.
- SELECTMEN OF DEDHAM:** — Road extending from the dividing line between the towns of Westwood and Dedham at or near the Islington Branch of the New York, New Haven and Hartford Railroad, northerly along said Islington Branch and a new location to a point on Washington Street between Dedham Square and the bridge over the New York, New Haven & Hartford Railroad. Received Aug. 9, 1932.
- SELECTMEN OF AMESBURY:** — Road locally known as Merrill and Main

Streets, extending from Elm Street to the dividing line between the town of Amesbury and the city of Newburyport. Received Aug. 25, 1932.

SELECTMEN OF AMESBURY: — Road locally known as Merrill Street, extending from Elm Street to the dividing line between the towns of Amesbury and Salisbury. Received Aug. 27, 1932.

SELECTMEN OF SALISBURY: — Road locally known as Rabbit Road, Willow Street and Main Street, extending from the dividing line between the towns of Salisbury and Amesbury to the New Hampshire State line. Received Aug. 27, 1932.

SELECTMEN OF YARMOUTH: — Road locally known as Iyanough Road, extending from the dividing line between the towns of Barnstable and Yarmouth easterly to the present State highway on South Main Street. Received Sept. 13, 1932.

SELECTMEN OF BARNSTABLE: — Road extending from the 1931 State highway layout on the road from Hyannis to Marstons Mills near Long Pond in Centreville easterly, over a new location, to Iyanough Road, and thence along Iyanough Road to the dividing line between the towns of Barnstable and Yarmouth. Received Sept. 13, 1932.

SELECTMEN OF FRAMINGHAM: — Road locally known as Edgell Road, extending from Worcester Road at Framingham Centre northerly to the dividing line between the towns of Framingham and Sudbury. Received Oct. 10, 1932.

SELECTMEN OF CANTON: — Road locally known as Green Lodge Street, extending from its intersection with the new Circumferential Highway southeasterly to its intersection with Washington Street in Ponkapoag Village. Received Oct. 1, 1932.

SELECTMEN OF SOUTHBRIDGE: — Road locally known as North Woodstock Road, extending from the Connecticut State line northerly to the easterly side of East Main Street in the southeasterly part of the town of Southbridge. Received Nov. 3, 1932.

SELECTMEN OF MILLBURY: — That portion of a trunk highway from Worcester to Providence, R. I., which would pass through the town of Millbury. Received Nov. 5, 1932.

CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS (Chapter 81, General Laws, as amended)

The following contracts were entered into during the year for the construction and reconstruction of State highways, and work incidental thereto, in various municipalities: —

New Bedford

Dec. 8, 1931, contract made with the Crandall Engineering Company, of Cambridge, for protecting the piers at the ends of the draw span of the Fairhaven-New Bedford Bridge. The proposal amounted to \$7,940.00. Work completed Aug. 27, 1932. Expenditure during 1932, \$66,217.60.

Littleton

Dec. 29, 1931, contract made with Greenough Construction Co., of Waltham, for constructing about 2,228 feet of State highway on King Street and about 567 feet of State highway on Forge Village Road; the surface on King Street except over the bridge consisting of bituminous macadam, the surface over the bridge consisting of bituminous concrete and the surface on Forge Village Road consisting of gravel. The proposal amounted to \$20,300.60. Work completed Aug. 20, 1932. Expenditure during 1932, \$19,440.70.

Hingham-Norwell

Dec. 29, 1931, contract made with Arute Bros., Incorporated, of New Britain, Conn., for resurfacing and widening about 11,288 feet of State highway on Whiting Street in Hingham and about 11,283 feet of State

highway on Washington Street in Norwell; the surface consisting of bituminous concrete. The proposal amounted to \$147,538.25. Work completed Sept. 2, 1932. Expenditure during 1932, \$156,227.33.

Worthington

Jan. 5, 1932, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing about 31,569 feet of State highway on Huntington Road; the surface consisting of bituminous macadam. The proposal amounted to \$197,406.60. Work completed Oct. 24, 1932. Expenditure during 1932, \$214,076.26.

Andover

Jan. 5, 1932, contract made with Patrick J. Holland, of Brockton, for reconstructing 14,220 feet of State highway on Main Street; the surface consisting of bituminous macadam between two sections of reinforced cement concrete. The proposal amounted to \$104,727.30. Work completed July 5, 1932. Expenditure during 1932, \$124,075.64.

Northborough-Shrewsbury

Jan. 5, 1932, contract made with Mario Pandolf Company, Inc., of Needham, for reconstructing about 20,201 feet of State highway on the Boston Post Road in Shrewsbury and about 6,196 feet of State highway on the same road in Northborough; the surface on about 14,960 feet of State highway in Shrewsbury consisting of bituminous macadam, and the remaining surface in Shrewsbury and Northborough consisting of bituminous macadam between two sections of reinforced cement concrete. The proposal amounted to \$225,413.60. Work completed November 18, 1932. Expenditure during 1932, \$248,369.88.

Westfield-West Springfield

Feb. 2, 1932, contract made with Fred T. Ley & Co., Inc., of Springfield, for reconstructing about 11,587 feet of State highway on Main Street and new location in Westfield and about 1,692 feet of State highway on Main Street in West Springfield; the surface, except over the viaduct, consisting of bituminous concrete. The proposal amounted to \$191,021.26. Work completed Nov. 14, 1932. Expenditure during 1932, \$162,575.81.

Westfield

Feb. 9, 1932, contract made with The Boston Bridge Works, Incorporated, of Cambridge, for constructing a steel bridge superstructure over the Westfield River at a point on Main Street; the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$83,734.30. Work practically completed. Expenditure during 1932, \$72,236.70.

Shrewsbury

May 3, 1932, contract made with Ralph H. White, of Auburn, for laying and relaying Cast Iron Water Pipe on the State highway in Shrewsbury, known as the Southwest Connection. The proposal amounted to \$7,470.60. Work completed July 26, 1932. Expenditure during 1932, \$9,218.02.

Oxford

May 3, 1932, contract made with the New England Building Wrecking Company, of Chelsea, for demolishing the brick power house and moving the building materials from the premises on "Texas Corner" in the town of Oxford. The proposal amounted to \$749.00. Work completed May 18, 1932. Expenditure during 1932, \$749.00.

Waltham

May 3, 1932, contract made with Greenough Construction Co., of Waltham, for reconstructing about 2,900 feet of State highway on Weston

Street; the surface consisting of bituminous macadam. The proposal amounted to \$27,007.20. Work completed Sept. 8, 1932. Expenditure during 1932, \$34,277.30.

Belchertown-Granby

May 3, 1932, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing about 3,104 feet of State highway on Enfield Road, and about 5,080 feet of State highway on Parker Road in Belchertown, and reconstructing about 16,658 feet of State highway on Belchertown Road in Granby; the surface consisting of bituminous macadam. The proposal amounted to \$125,262.35. Work completed Oct. 20, 1932. Expenditure during 1932, \$130,133.37.

Middleborough-Rochester-Wareham

May 4, 1932, contract made with the Eastern Contracting Company, of Quincy, for resurfacing and widening about 1,840 feet of State highway on Wareham Street in Middleborough, about 4,230 feet of State highway on Tremont Street in Rochester, and about 33,311 feet of State highway on Sandusky Road in Wareham; the surface consisting of bituminous macadam. The proposal amounted to \$202,526.55. Work practically completed. Expenditure during 1932, \$162,522.59.

Whitman

May 11, 1932, contract made with the Eastern Contracting Company, of Quincy, for reconstructing about 8,925 feet of State highway on Temple Street; the surface consisting of bituminous macadam. The proposal amounted to \$58,181.55. Work completed November 16, 1932. Expenditure during 1932, \$56,350.84.

Billerica-Chelmsford

May 10, 1932, contract made with the Central Construction Company, of Lawrence, for resurfacing and widening about 13,300 feet of State highway on the Boston Road in Billerica and about 5,177 feet of State highway on Gorham Street in Chelmsford; the surface consisting of bituminous concrete. The proposal amounted to \$80,126.74. Work completed Sept. 27, 1932. Expenditure during 1932, \$97,492.51.

Auburn-Oxford

May 10, 1932, contract made with Frank & Frank Cons. Co., of Providence, R. I., for reconstructing and widening about 5,020 feet of State highway on Charlton Road in Oxford and about 3,000 feet of State highway on Southbridge Street in Auburn; the surface consisting of reinforced cement concrete and bituminous macadam. The proposal amounted to \$55,352.13. Work completed Sept. 15, 1932. Expenditure during 1932, \$66,974.83.

Edgartown-Oak Bluffs

May 17, 1932, contract made with O. W. Miller Co., Inc., of Springfield, for reconstructing a creosoted timber pile bridge and bulkheads over Sengekontacket Pond at the dividing line between the towns of Edgartown and Oak Bluffs. The proposal amounted to \$20,113.00. Work completed July 18, 1932. Expenditure during 1932, \$19,662.77.

Pittsfield

May 24, 1932, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing and reconstructing about 14,327 feet of State highway on Woodleigh Avenue and new location; the surface consisting of reinforced cement concrete and bituminous macadam. The proposal amounted to \$167,878.90. Work completed Nov. 10, 1932. Expenditure during 1932, \$162,086.06.

Stoneham

June 7, 1932, contract made with M. McDonough Co., of Saugus, for reconstructing about 3,006 feet of State highway on Main Street; the surface consisting of bituminous macadam. The proposal amounted to \$16,597.90. Work completed Aug. 12, 1932. Expenditure during 1932, \$20,719.87.

Somerset-Fall River

June 7, 1932, contract made with Burrows and Croke, of Fall River, for repairing the Brightman Street Bridge. The proposal amounted to \$6,083.00. Work completed Aug. 15, 1932. Expenditure during 1932, \$7,446.59.

Salisbury

June 14, 1932, contract made with James E. Watkins Company, Inc., of Amesbury, for widening about 1,013 feet of State highway on Beach Road; the surface consisting of bituminous macadam. The proposal amounted to \$12,647.00. Work completed Aug. 1, 1932. Expenditure during 1932, \$13,115.27.

Hingham

June 14, 1932, contract made with the National Guniting Contracting Co., of Boston, for guniting repairs to the bridge on Summer Street over Mill Stream. The proposal amounted to \$1,032.00. Work completed June 22, 1932. Expenditure during 1932, \$1,178.19.

Adams

June 21, 1932, contract made with the Town of Adams for reconstructing about 1,500 feet of State highway on Orchard Street; the surface consisting of bituminous macadam. The proposal amounted to \$13,809.57. Work completed Oct. 27, 1932. Expenditure during 1932, \$11,776.19.

Charlton

June 28, 1932, contract made with Perini & Ampollini, of Framingham, for reconstructing about 2,375 feet of State highway on Worcester Road; the surface consisting of bituminous macadam. The proposal amounted to \$33,460.05. Work practically completed. Expenditure during 1932, \$27,105.69.

Beverly

June 28, 1932, contract made with Welch & Moynihan Co., of Salem, for reconstructing about 10,605 feet of State highway on Cabot, Dodge and Enon Streets; the surface consisting of bituminous macadam. The proposal amounted to \$36,804.06. Work completed Sept. 2, 1932. Expenditure during 1932, \$36,743.36.

Newton-Wellesley

July 19, 1932, contract made with Coleman Bros., Incorporated, of Boston, for constructing reinforced concrete frame bridges over Quinobequin and Chestnut Streets, a steel ribbed three-hinged arch bridge with reinforced concrete floor and concrete abutments and wing walls with stone facing over Centre Street, and a steel stringer bridge with reinforced concrete floor and concrete abutments and wing walls under Parker Street, and to construct about 14,551 feet of State highway on Boylston Street, in Newton, and to construct about 2,443 feet of State highway on Worcester Street in Wellesley; the surface except over the bridges under Parker Street and over the railroad tracks in Newton consisting of reinforced cement concrete with bituminous macadam constructed on each side of a loam section but separated therefrom by bituminous concrete shoulders, and the surface over the bridge under Parker Street and over the railroad tracks consisting of bituminous concrete. The proposal

amounted to \$427,227.21. Work about one-half completed. Expenditure during 1932, \$247,595.59.

Dighton-Taunton

July 19, 1932, contract made with James H. Kerr, of Boston, for reconstructing about 1,232 feet of State highway on Somerset Avenue in Taunton and about 2,158 feet of State highway on the same road in Dighton, and constructing a reinforced concrete beam bridge over Three Mile River at the dividing line between Dighton and Taunton; the surface consisting of bituminous macadam. The proposal amounted to \$50,839.00. Work practically completed. Expenditure during 1932, \$38,472.47.

Lenox-Pittsfield

July 19, 1932, contract made with the New Haven Road Construction Co., Inc., of New Haven, Conn., for widening about 16,797 feet of State highway on the Pittsfield-Lenox Road in Lenox and about 8,181 feet of State highway on the same road in Pittsfield; the surface consisting of reinforced cement concrete. The proposal amounted to \$129,494.00. Work practically completed. Expenditure during 1932, \$110,118.24.

West Boylston-Worcester

Aug. 2, 1932, contract made with Charles E. Horne, of Millbury, for constructing and reconstructing about 5,671 feet of State highway on West Boylston Street and new location in Worcester and about 8,900 feet of State highway on the same road in West Boylston; the surface consisting of bituminous macadam. The proposal amounted to \$78,805.70. Work practically completed. Expenditure during 1932, \$62,336.29.

Tewksbury

Aug. 2, 1932, contract made with R. A. Richard & Co., Inc., of Boston, for widening a bridge and approaches on about 1,000 feet of State highway on Main Street; the surface consisting of bituminous macadam. The proposal amounted to \$6,295.00. Work practically completed. Expenditure during 1932, \$5,502.32.

Bourne-Falmouth

Aug. 9, 1932, contract made with the T. J. McCue Construction Company, of Watertown, for constructing and reconstructing about 34,100 feet of State highway in Bourne and Falmouth; the surface consisting of bituminous concrete. The proposal amounted to \$147,937.70. Work just commenced. Expenditure during 1932, \$12,935.17.

Dedham-Westwood-Needham

Aug. 16, 1932, contract made with Arute Bros., Incorporated, of Bridge-water, for constructing a steel plate girder railroad bridge over the highway in Westwood for the New York, New Haven & Hartford Railroad, constructing deck steel plate girder bridges with reinforced concrete floors in Dedham over the Circumferential Highway, High Street and Williams Street, and constructing about 7,823 feet of State highway on Neponset Street, 5,610 feet of State highway on the same road in Westwood, and about 9,000 feet of State highway on the same road in Dedham; the surface consisting of sections of reinforced cement concrete, bituminous macadam, or combinations of both. The proposal amounted to \$531,597.55. Work about one-fifth completed. Expenditure during 1932, \$120,653.01.

Wellesley

Aug. 30, 1932, contract made with Carlo Bianchi and Company, Inc., of Framingham, for constructing a reinforced concrete rigid frame bridge

over West Road, and constructing about 12,000 feet of State highway on Worcester Street; the surface consisting of reinforced cement concrete with bituminous macadam constructed on each side of a loam section but separated therefrom by bituminous concrete shoulders. The proposal amounted to \$233,099.60. Work about one-sixth completed. Expenditure during 1932, \$24,391.43.

West Newbury

Aug. 30, 1932, contract made with Patrick J. Holland, of Brockton, for reconstructing about 13,876 feet of State highway on Main Street; the surface consisting of bituminous macadam. The proposal amounted to \$56,709.20. Work completed Nov. 21, 1932. Expenditure during 1932, \$42,235.21.

Blackstone-Millville-Uxbridge

Aug. 30, 1932, contract made with John F. Kennedy & Company, of Cambridge, for resurfacing and widening about 23,527 feet of State highway on Main Street in Blackstone and Millville and on Millville Road in Uxbridge; the surface consisting of bituminous macadam. The proposal amounted to \$53,644.96. Work about one-third completed. Expenditure during 1932, \$17,019.56.

Hingham-Cohasset

Sept. 6, 1932, contract made with V. Barletta Co., of Boston, for constructing a steel stringer bridge over the tracks of the New York, New Haven & Hartford Railroad Company and a reinforced concrete slab bridge over Weir River in Hingham, and constructing about 16,632 feet of State highway on new location in Hingham and Cohasset; the surface except over the bridge over the railroad tracks and on the traffic circle consisting of bituminous macadam, the surface over the bridge over the railroad tracks consisting of bituminous concrete, and the surface on the traffic circle consisting of concrete. The proposal amounted to \$246,603.33. Work about one-sixth completed. Expenditure during 1932, \$59,628.49.

Wellesley

Sept. 6, 1932, contract made with the State Construction Co., Inc., of Boston, for constructing a steel stringer bridge under Cedar Street and a reinforced concrete slab bridge over Rosemary Brook, and constructing about 7,183 feet of State highway on Worcester Street; the surface except over the bridge over Rosemary Brook consisting of reinforced cement concrete with bituminous macadam constructed on each side of a loam section but separated therefrom by bituminous concrete shoulders, and the surface over the bridge over Rosemary Brook consisting of bituminous concrete. The proposal amounted to \$178,179.40. Work about one-third completed. Expenditure during 1932, \$21,324.93.

Belchertown

Sept. 6, 1932, contract made with the Rome Construction Company, of Quincy, for reconstructing about 14,868 feet of State highway on Granby Road; the surface consisting of bituminous macadam. The proposal amounted to \$59,506.13. Work about one-fifth completed. Expenditure during 1932, \$12,082.55.

Dalton-Sandisfield-Tolland-Sheffield-Lee-North Adams

Sept. 6, 1932, contract made with Stephen Carson, of Cambridge, for cleaning and painting seven bridges in Dalton, Sandisfield, Tolland, Sheffield, Lee and North Adams. The proposal amounted to \$850.00. Work practically completed. Expenditure during 1932, \$722.50.

Lakeville-Middleborough-Raynham-Taunton

Sept. 6, 1932, contract made with the Eastern Contracting Company, of Quincy, for constructing about 7,360 feet of State highway on Dean Street and new location in Taunton, about 18,967 feet of State highway on new location in Raynham, about 2,475 feet of State highway on new location in Lakeville, and about 4,687 feet of State highway on new location in Middleborough; the surface consisting of sections of bituminous macadam between two sections of reinforced cement concrete, sections of bituminous macadam full width, and sections of reinforced cement concrete full width. The proposal amounted to \$350,333.80. Work just commenced.

Egremont

Sept. 13, 1932, contract made with John M. Kelly Co., Inc., of Boston, for widening a bridge and approaches in the town of Egremont; the surface consisting of bituminous macadam. The proposal amounted to \$5,286.25. Work practically completed. Expenditure during 1932, \$3,835.06.

Ipswich

Oct. 4, 1932, contract made with the Greenough Construction Co., of Waltham, for reconstructing about 10,991 feet of State highway on High Street; the surface consisting of bituminous macadam. The proposal amounted to \$42,572.65. Work about one-fourth completed. Expenditure during 1932, \$12,932.59.

Oakham-Rutland

Oct. 4, 1932, contract made with the Greenough Construction Co., of Waltham, for reconstructing about 14,840 feet of State highway on Worcester Road in Oakham and about 4,400 feet of State highway on the same road in Rutland; the surface consisting of bituminous macadam. The proposal amounted to \$68,862.50. Work just commenced. Expenditure during 1932, \$8,417.29.

Wellesley

Oct. 4, 1932, contract made with The Boston Bridge Works, Incorporated, of Cambridge, for constructing steel bridge superstructures over the Boston & Albany Railroad, under Washington Street, and on Cliff Road over the Boston & Albany Railroad. The proposal amounted to \$48,598.51. Work not as yet commenced.

Wellesley

Oct. 4, 1932, contract made with Simpson Bros., Corporation, of Boston, for constructing about 5,850 feet of State highway on Worcester Street; the surface consisting of reinforced cement concrete with bituminous macadam constructed on each side of a loam section but separated therefrom by bituminous concrete shoulders except over the bridges at Washington Street and Cliff Road, and the surface over the bridges at Washington Street and Cliff Road consisting of bituminous concrete. The proposal amounted to \$387,735.93. Work just commenced. Expenditure during 1932, \$18,322.00.

Lee-Stockbridge

Oct. 11, 1932, contract made with the Crane Construction Company, of Boston, for reconstructing about 5,614 feet of State highway on Main St., in Stockbridge and about 5,000 feet of State highway on the same road in Lee; the surface consisting of bituminous macadam. Work just commenced. Expenditure during 1932, \$6,810.40. The proposal amounted to \$51,425.70.

Hancock-Pittsfield

Oct. 11, 1932, contract made with The Lane Construction Corporation, of Meriden, Conn., for reconstructing about 20,627 feet of State highway in Hancock and Pittsfield; the surface consisting of reinforced cement concrete. The proposal amounted to \$186,537.06. Work just commenced. Expenditure during 1932, \$29,084.68.

West Springfield

Oct. 18, 1932, contract made with Fred T. Ley & Co., Inc., of Springfield, for widening about 2,900 feet of State highway on Main Street; the surface consisting of bituminous macadam. The proposal amounted to \$3,575.00. Work completed Nov. 15, 1932. Expenditure during 1932, \$2,647.81.

Amesbury-Salisbury

Oct. 18, 1932, contract made with G. Rotondi & Son, of Melrose, for constructing about 780 feet of State highway on Rabbit Road and Main Street in Amesbury and about 12,945 feet of State highway on Main Street in Salisbury; the surface consisting of bituminous macadam. The proposal amounted to \$57,601.26. Work just commenced. Expenditure during 1932, \$3,932.35.

Revere

Nov. 1, 1922, contract made with Joseph F. Cavanagh, of Boston, for reconstructing a concrete culvert on Bennington Street. The proposal amounted to \$7,659.00. Work just commenced. Expenditure during 1932, \$1,556.12.

West Newbury

Nov. 1, 1932 contract made with M. McDonough Co., of Saugus, for reconstructing about 13,025 feet of State highway on Main Street; the surface consisting of bituminous macadam. The proposal amounted to \$46,048.62. Work just commenced. Expenditure during 1932, \$2,413.12.

Barnstable-Yarmouth

Nov. 1, 1932, contract made with Michael F. Roach & Sons, Inc., of East Bridgewater, for constructing about 19,275 feet of State highway on Iyannough Road and new location in Barnstable and Yarmouth; the surface consisting of bituminous concrete. The proposal amounted to \$80,267.95. Work not yet commenced.

EXPENDITURES FOR THE CONSTRUCTION OF STATE HIGHWAYS

The expenditures for the construction of State highways in various Counties during the year were:—

Barnstable, \$43,051.48	Hampshire, \$339,891.83
Berkshire, \$145,188.03	Middlesex, \$591,766.45
Bristol, \$40,688.06	Norfolk, \$556,031.39
Essex, \$66,195.23	Plymouth, \$240,885.39
Franklin, \$134,787.63	Suffolk, \$262,165.05
Hampden, \$46,775.52	Worcester, \$433,482.36
	Total, \$2,900,908.42

Details of the foregoing expenditures follow:—

Barnstable County.—Barnstable, \$24,751.63; Bourne, \$18,288.77; Sandwich, \$.99; Yarmouth, \$10.09.

Berkshire County.—Hinsdale, \$20,462.89; Pittsfield, \$124,711.10; Williamstown, \$14.04.

Bristol County.—Attleboro, \$2,506.34; North Attleborough, \$16,765.71; Raynham, \$1,250.49; Seekonk, \$18,915.04; Taunton, \$1,250.48.

Essex County.—Amesbury, \$3,738.37; Merrimac, \$2,641.28; North Andover, \$46,201.00; Rowley, \$8,063.84; Salisbury, \$5,550.74.

Franklin County.—Ashfield, \$26,723.61; Bernardston, \$9,583.25; Charlemont, \$7,749.54; Conway, \$25,868.34; Deerfield, \$31,270.60; Greenfield, \$24,166.19; Orange, \$9,426.10.

Hampden County.—Chester, \$27,213.62; Monson, \$317.50; Palmer, \$19,244.40.

Hampshire County.—Belchertown, \$79,955.11; Easthampton, \$1,517.07; Huntington, \$14,133.21; Worthington, \$244,286.44.

Middlesex County.—Newton, \$446,706.59; North Reading, \$732.31; Reading, \$3,749.63; Tyngsborough, \$68,469.44; Waltham, \$5,243.13; Westton, \$66,865.35.

Norfolk County.—Cohasset, \$6,112.69; Dedham, \$119,185.59; Foxborough, \$2,438.81; Milton, \$14,986.05; Norwood, \$66,021.08; Plainville, \$52,753.34; Randolph, \$81,678.54; Wellesley, \$130,911.21; Westwood, \$34,878.41; Wrentham, \$47,065.67.

Plymouth County.—Abington, \$3,097.01; Bridgewater, \$1,039.89; Brockton, \$9,565.65; Duxbury, \$55,453.73; Hingham, \$75,272.35; Kingston, \$25,923.97; Lakeville, \$1,250.49; Middleborough, \$55,335.71; Pembroke, \$13,946.59.

Suffolk County.—Boston, \$89,630.95; Revere, \$172,534.10.

Worcester County.—Athol, \$8,173.55; Dudley, \$97.95; Hopedale, \$22,420.84; Mendon, \$18,171.88; Milford, \$42,693.10; Northborough, \$4,222.84; Shrewsbury, \$87,901.06; Southborough, \$83,408.16; Southbridge, \$49.08; West Boylston, \$59,383.55; Westborough, \$98,084.20; Worcester, \$8,876.15.

EXPENDITURES UNDER THE PROVISIONS OF CHAPTER 119, ACTS OF 1931:

Hingham, \$69,268.95

Hull, \$104,555.72

EXPENDITURES UNDER THE PROVISIONS OF CHAPTER 122, ACTS OF 1931

For State Highway Construction

Auburn-Worcester	\$340,852.26	Northborough-Shrewsbury	\$189,585.20
Erving	80,007.24		
Erving-Gill	237,225.58	Sharon-Norwood-	
Foxborough-Sharon-		Walpole	380,760.42
Walpole-Wrentham	304,532.27	Uxbridge (Ironstone	
Framingham-Natick	794,526.66	St.)	255,817.67
Framingham-Southbor-		Uxbridge (Millville	
ough	207,123.00	Rd.)	45,084.43
Gill-Erving	33,449.30	Williamstown	79,884.48
Gill-Greenfield	252,364.30	Worcester-Shrews-	
Lakeville-Middle-		bury	490,824.80
borough	240,567.46		
Millbury-Worcester	459,014.77		\$4,391,619.84

MAINTENANCE AND REPAIR OF STATE HIGHWAYS

(Section 13, Chapter 81, General Laws). The expenditures during the year in various counties were:—

Barnstable, \$128,108.37

Berkshire, \$670,447.51

Bristol, \$400,119.88

Dukes, \$34,291.77

Essex, \$919,323.18

Franklin, \$103,514.31

Hampden, \$462,113.77

Hampshire, \$217,728.61

Middlesex, \$748,102.09

Nantucket, \$271.93

Norfolk, \$239,050.23

Plymouth, \$669,443.27

Suffolk, \$20,176.45

Worcester, \$996,255.27

Total, \$5,608,946.64

Details of the foregoing expenditures follow:—

Barnstable County.—Barnstable, \$67,618.42; Bourne, \$10,286.65; Brewster, \$3,753.63; Chatham, \$4,646.30; Dennis, \$2,645.30; Eastham, \$1,981.28; Falmouth, \$6,004.67; Harwich, \$3,512.36; Mashpee, \$3,721.98;

Orleans, \$1,831.39; Provincetown, \$3,625.50; Sandwich, \$8,897.24; Truro, \$4,339.26; Wellfleet, \$2,178.69; Yarmouth, \$3,065.70.

Berkshire County.—Adams, \$17,032.48; Becket, \$75,614.66; Cheshire, \$9,566.07; Clarksburg, \$3,960.67; Dalton, \$3,196.37; Egremont, \$113,776.04; Florida, \$11,502.43; Great Barrington, \$15,821.65; Hancock, \$39,921.39; Hinsdale, \$4,070.51; Lanesboro, \$10,133.78; Lee, \$22,413.56; Lenox, \$105,493.77; New Ashford, \$1,520.65; New Marlborough, \$153.31; North Adams, \$10,994.98; Otis, \$3,938.70; Pittsfield, \$167,859.98; Richmond, \$1,170.83; Sandisfield, \$5,327.31; Savoy, \$1,920.02; Sheffield, \$18,997.72; Stockbridge, \$3,249.31; Washington, \$3,820.42; West Stockbridge, \$191.59; Williamstown, \$14,532.20; Windsor, \$4,267.11.

Bristol County.—Acushnet, \$2,169.42; Attleboro, \$2,649.68; Berkley, \$3,124.36; Dartmouth, \$4,132.02; Dighton, \$44,587.65; Easton, \$16,682.51; Fairhaven, \$1,637.21; Fall River, \$4,810.63; Freetown, \$6,268.51; Mansfield, \$3,368.70; New Bedford, \$94,316.36; Norton, \$25,072.67; North Attleborough, \$4,406.38; Raynham, \$13,920.80; Rehoboth, \$9,575.31; Seekonk, \$41,908.71; Somerset, \$37,162.25; Swansea, \$32,610.48; Taunton, \$39,076.85; Westport, \$12,639.38.

Dukes County.—Chilmark, \$5,234.49; Edgartown, \$14,346.63; Gay Head, \$860.25; Oak Bluffs, \$3,833.14; Tisbury, \$860.78; West Tisbury, \$9,156.48.

Essex County.—Amesbury, \$8,186.61; Andover, \$194,361.98; Beverly, \$53,580.79; Danvers, \$7,947.69; Essex, \$4,316.25; Gloucester, \$15,229.29; Groveland, \$619.22; Hamilton, \$6,646.73; Haverhill, \$16,552.40; Ipswich, \$70,992.68; Lawrence, \$8,614.58; Lynn, \$2,868.80; Lynnfield, \$14,244.81; Merrimac, \$4,176.99; Methuen, \$47,753.56; Middleton, \$3,098.07; Newbury, \$28,770.42; Newburyport, \$933.87; North Andover, \$20,651.74; Peabody, \$9,352.15; Rockport, \$1,348.91; Rowley, \$38,719.50; Salem, \$109,691.58; Salisbury, \$81,305.77; Saugus, \$39,040.01; Swampscott, \$48,217.64; Topsfield, \$5,470.57; Wenham, \$17,000.27; West Newbury, \$59,630.30.

Franklin County.—Ashfield, \$6,087.11; Bernardston, \$3,265.97; Buckland, \$2,302.19; Charlemont, \$23,308.53; Colrain, \$1,015.48; Conway, \$5,493.45; Deerfield, \$8,463.43; Erving, \$9,045.37; Gill, \$165.57; Greenfield, \$12,122.90; Montague, \$9,220.54; Northfield, \$4,725.72; Orange, \$3,765.57; Shelburne, \$8,643.17; Sunderland, \$3,639.44; Whately, \$2,249.87.

Hampden County.—Agawam, \$17,806.12; Blandford, \$4,901.25; Brimfield, \$4,657.10; Chester, \$18,775.43; Chicopee, \$3,647.91; East Longmeadow, \$749.53; Holland, \$22.59; Holyoke, \$2,926.64; Monson, \$12,954.16; Palmer, \$23,220.08; Russell, \$22,765.59; Southwick, \$4,493.48; Tolland, \$144.76; Wales, \$1,897.60; Westfield, \$324,544.84; West Springfield, \$14,567.58; Wilbraham, \$4,039.11.

Hampshire County.—Amherst, \$4,828.18; Belchertown, \$17,675.82; Cummington, \$12,258.65; Easthampton, \$2,245.94; Goshen, \$7,315.25; Granby, \$91,041.22; Hadley, \$2,914.13; Hatfield, \$12,813.82; Huntington, \$21,517.33; Northampton, \$6,353.83; Southampton, \$8,896.18; South Hadley, \$15,332.17; Ware, \$9,396.88; Williamsburg, \$4,967.48; Worthington, \$171.73.

Middlesex County.—Acton, \$8,353.07; Arlington, \$3,658.66; Ashby, \$50,685.74; Ashland, \$2,932.92; Ayer, \$2,045.22; Bedford, \$12,679.56; Billerica, \$88,031.68; Boxboro, \$2,204.50; Burlington, \$5,915.81; Chelmsford, \$33,178.83; Concord, \$6,129.67; Dracut, \$10,444.53; Framingham, \$12,045.83; Groton, \$28,259.03; Holliston, \$6,187.00; Hudson, \$1,709.90; Lexington, \$14,955.31; Lincoln, \$3,941.07; Littleton, \$5,077.14; Lowell, \$6,558.76; Malden, \$15.97; Marlboro, \$74,139.78; Medford, \$4,662.10; Melrose, \$368.89; Natick, \$2,850.12; Newton, \$863.41; North Reading, \$50,968.60; Pepperell, \$19,746.08; Reading, \$48,104.01; Shirley, \$5,071.19; Somerville, \$1,754.03; Stoneham, \$29,309.12; Sudbury, \$22,890.26; Tewksbury, \$13,039.50; Townsend, \$53,401.66; Tyngsboro, \$16,788.28; Waltham,

\$35,153.68; Watertown, \$512.21; Wayland, \$7,945.01; Westford, \$4,547.58; Weston, \$28,973.64; Wilmington, \$8,662.80; Winchester, \$2,545.00; Woburn, \$10,789.94.

Nantucket County.—Nantucket, \$271.93.

Norfolk County.—Avon, \$2,048.27; Bellingham, \$5,758.68; Braintree, \$18,273.97; Canton, \$7,981.05; Cohasset, \$2,022.36; Dedham, \$2,265.34; Dover, \$1,054.41; Foxboro, \$7,405.72; Franklin, \$1,166.84; Holbrook, \$25,904.59; Milton, \$9,815.14; Needham, \$975.10; Norfolk, \$883.58; Norwood, \$5,144.47; Plainville, \$8,203.07; Quincy, \$18,013.07; Randolph, \$44,606.56; Sharon, \$714.14; Stoughton, \$3,330.61; Walpole, \$9,519.57; Wellesley, \$784.48; Westwood, \$3,395.94; Weymouth, \$48,326.12; Wrentham, \$11,457.15.

Plymouth County.—Abington, \$53,915.26; Bridgewater, \$2,351.33; Brockton, \$7,978.14; Duxbury, \$19,636.81; East Bridgewater, \$1,249.61; Hanover, \$2,716.49; Hingham, \$111,801.47; Hull, \$319.94; Kingston, \$2,086.47; Lakeville, \$7,487.09; Marion, \$6,151.54; Marshfield, \$6,000.34; Mattapoisett, \$4,008.50; Middleboro, \$20,769.02; Norwell, \$100,171.25; Pembroke, \$25,587.50; Plymouth, \$8,138.62; Rochester, \$15,590.29; Rockland, \$725.57; Scituate, \$2,592.52; Wareham, \$195,124.19; West Bridgewater, \$967.90; Whitman, \$74,073.42.

Suffolk County.—Boston, \$8,089.72; Chelsea, \$780.60; Revere, \$11,306.13.

Worcester County.—Ashburnham, \$6,617.68; Athol, \$2,547.96; Auburn, \$31,448.28; Barre, \$4,310.32; Blackstone, \$13,862.24; Brookfield, \$1,149.62; Charlton, \$103,451.99; Douglas, \$488.52; Dudley, \$2,479.64; East Brookfield, \$1,953.14; Fitchburg, \$5,768.51; Gardner, \$5,746.16; Grafton, \$7,104.30; Hardwick, \$459.10; Harvard, \$2,911.92; Holden, \$6,246.09; Hopedale, \$920.82; Lancaster, \$261.34; Leicester, \$4,792.75; Leominster, \$2,850.95; Lunenburg, \$5,847.94; Mendon, \$4,072.83; Milford, \$2,564.23; Millbury, \$1,201.65; Millville, \$1,324.13; New Braintree, \$122.00; North Brookfield, \$3,030.24; Northboro, \$174,347.60; Northbridge, \$6,708.13; Oakham, \$12,768.25; Oxford, \$74,957.53; Paxton, \$3,330.69; Petersham, \$4,360.69; Phillipston, \$1,217.87; Princeton, \$4,701.76; Rutland, \$12,041.32; Shrewsbury, \$299,990.19; Southboro, \$21,483.26; Southbridge, \$20,743.18; Spencer, \$1,349.66; Sterling, \$5,197.55; Sturbridge, \$37,537.47; Sutton, \$3,326.56; Templeton, \$5,846.21; Upton, \$2,826.68; Uxbridge, \$13,154.79; Warren, \$4,866.38; Webster, \$1,168.52; West Boylston, \$2,648.17; West Brookfield, \$1,474.37; Westboro, \$18,946.55; Westminster, \$5,575.80; Winchendon, \$5,541.90; Worcester, \$26,609.84.

Miscellaneous expenditures are as follows:—

Truck repairs	\$18,116 14	
Truck operation	3,788 20	
Truck plow repairs	21,614 15	
Tractor repairs	16,715 51	
Tractor operation	3,100 57	
Tractor plow repairs	17,778 38	
Snow fence	902 40	
Expenditures under towns	347,918 18	
		\$429,933 53
Warning signs	32,712 11	
Direction signs	70,425 39	
Control signals	60,087 29	
Traffic survey	23,129 83	
Traffic accidents	17 80	
Traffic permits	2,771 62	
		189,144 04
Somerset Bridge	13,225 34	
Newburyport Bridge	6,839 12	
Fairhaven—New Bedford Bridge	18,176 50	
		38,240 96

P. D. 54	31
Detour Bulletins	3,868 70
Construction of D St. Garage	26,492 70
Heating Plant at D St. Garage	1,880 20
Total of miscellaneous expenditures	\$689,560 13

REMOVAL OF SNOW AND ICE FROM STATE HIGHWAYS

The authority of the Department relative to the removal of snow and ice from State highways has been provided by section 19, chapter 81, General Laws, as amended.

The cooperation of the Department with officers of cities, towns and counties, in keeping open and reasonably passable for vehicles during the winter months such highways as may be selected by the Department is provided for in section 11, chapter 84, General Laws, as amended.

In accordance with the provisions of these laws, the Department selected 1,530 miles of highways on the principal routes of travel, 1,393 miles of which are State highways and 137 miles town highways.

The work of snow removal on these routes is performed in a large part by the trucks and tractors owned and operated by the Department, but certain towns and cities, by agreement with the Department, perform part of the work of snow removal on the portions of the routes within their limits. All of this work is done under the direction and supervision of the Department.

The expenditures by the Department for snow removal during the year under the provisions of both the above-mentioned laws amounted to a total of \$429,933.52, which includes the cost of maintenance and repair of the equipment, actual cost of plowing and purchase of materials, such as calcium chloride and sand for use on icy conditions of the road surfaces.

UNIFORM TRAFFIC SIGNS, LIGHTS, MARKINGS, SIGNAL SYSTEMS AND REGULATIONS

Authority and jurisdiction relating to the erection of traffic signs, lights, markings, signal systems and regulations on highways within the Commonwealth was placed in the Department of Public Works by chapter 357, of the Acts of 1928. The Department is thereby enabled to insure that all traffic control signals to be erected by the municipalities shall conform to standards adopted by the Department and cooperates with the cities and towns for the purpose of properly locating and operating such signals. All through ways desired by the municipalities must first be approved by the Department before such may become effective.

In order to secure uniformity in the matter of traffic control, the Department has issued three bulletins. These bulletins are as follows: Bulletin No. 1, "Recommendations and Requirements relating to Through Ways"; Bulletin No. 2, "A Standard Code for Traffic Signal Installation and Operation"; Bulletin No. 3, "A Standard Code for Traffic Signs, Warning Beacons and Islands." These present the standards which are required to be met by the cities and towns of the State for the installation and maintenance of traffic signs, signals and devices for the control of traffic.

TRAFFIC CONTROL SIGNALS AND REGULATIONS APPROVED

During the year the Department has issued permits to cities and towns for the following traffic control features:

	In 1932	Previously	Total to date
Traffic Signals, at intersections	69	676	745
Traffic Beacons (11 cancellations)	47	178	214
Through Ways (4 cancellations)	9	101	106
Traffic Signs and Markings (1 cancellation)	38	129	166
Traffic Rules and Regulations	80	188	268
Isolated Stop Signs	67	38	105

DIRECTION SIGNS, ROUTE MARKERS, WARNING SIGNS AND TRAFFIC CONTROL SIGNALS ERECTED BY DEPARTMENT

The Department has given a great deal of study to the determination of the important routes of travel for the purpose of marking and furnishing direction signs as aids for traveling. Ninety-five automobile routes have been selected, including practically every city, town and village in the Commonwealth, having a total mileage of 3,200 miles. Included in this designation are the so-called United States routes, the numbering of which conforms to the numbers approved by the United States Bureau of Public Roads. The other routes selected are numbered according to the State's designation.

The placing of route numbers and direction signs at points of advantage on these designated highways is done by the Department both on State highways and on city and town ways, permission for the latter being obtained from the local authorities. Warning signs and traffic control signals which are erected and maintained by the Department are placed only on State highways.

During the year the foundation was laid for the numbering of the Worcester Turnpike and adjacent routes. Several of the Massachusetts automobile routes which crossed into neighboring states were changed and it was possible through the continued cooperation of the bordering state highway officials to have these additional routes cross the State line without changing the route numbers.

In addition to the great number of existing signs already used to warn or direct the motorist, the Department, in an effort to instruct drivers further and to insure safety has erected many new signs. Signs reading "Do Not Pass on Hill", "Do Not Pass on Curve" and "Keep Single Line" have been erected at strategic points along the highways. With the opening of the new trunk highway, where speed averaged approximately 40 miles per hour it was necessary to develop a sign which could be read at a greater distance than the large directional signs. Legends, therefore, with letters 12 inches high were painted on large billboard signs. In one case on the Worcester Turnpike a 4' x 12' billboard sign illuminated at night by two 100-watt bulbs and controlled by a time clock was erected.

At locations where the hazard was particularly great and where traffic signals could not be used, neon tubes forming the legend were erected. This type of sign is especially advantageous on foggy nights since it has greater penetrating power than any light or reflector unit.

The Department installed thirty additional traffic control signals during the year, bringing the total of such signals up to sixty-two. Since July 1st of this year the Department has found it more economical and has succeeded in reducing the maintenance charges by installing its own traffic signals.

In the year just passed the Department designated twenty-four additional miles of State highway as Through Ways. The total now approximates fifty miles.

The manufacture of many of these signs and the erection and maintenance of all of these signs and signals are part of the highway maintenance activities.

TRAFFIC ACCIDENT STUDIES

Studies have been continued to ascertain the attendant circumstances and physical characteristics at points on the highways where accidents have occurred, in order to measure the effectiveness of control or lack of control of traffic movements at such points. Such information included the type of district, layout of the roadway, means of traffic control, atmospheric conditions, light conditions, condition of roadway, physical obstructions in the roadway and obstructions to view. This information is required in reports submitted to the Registry of Motor Vehicles and is supplied to the traffic engineering section for study.

ROADSIDE MAINTENANCE AND DEVELOPMENT

Roadside maintenance as related to the care and planting of trees and other growth on the areas within the highway layouts and adjacent to the traveled surface of State highways has been one of the activities of this Department for over thirty-six years. This work has been developed more rapidly during recent years because it has become recognized that systematic and intelligent control and development of all features of the roadside conditions are of value not only from the point of view of attractiveness in appearance but as a safety factor as well.

The Department has organized and trained a group of men under competent supervision to have charge of this work, not only for the removal and trimming of trees, brush and undesirable growth, but also for the selection and planting of new growth suitable for the locations. The removal of trees and brush that may obstruct vision at curves, intersections or other points on the highway is done to insure that operating conditions shall be as safe as possible and unnecessary growth is cleared cut in order to afford attractive vistas at many scenic locations. For the protection of the roadside trees the Department has maintained a corps of inspectors to supervise the trimming that may be necessary for the construction of light and power transmission lines. In connection with this work a Nursery is maintained at Sudbury where most of the trees and shrubs for use on the highways of Massachusetts are grown and made available for use by the Department. Strict supervision of the tree trimming by the Public Service Corporations is maintained, thus preserving the natural beauty of our roadsides as much as possible and still allowing the Public Service Corporations to extend their services.

During the year 1,440 trees were planted, making a total for the past twenty-eight years of 63,664 trees planted; and this year 4,429 shrubs have been planted throughout the State; in addition 6,731 small pines have been planted on bare slopes and ragged cuts.

Approximately 2,000 men were given employment for a period of four months. These men were employed on the various maintenance activities of the Department; many of them working on roadside work and improvement, such as cutting undesirable growth, trimming and removing trees to improve visibility at hazardous locations, grading and seeding unsightly slopes and other miscellaneous work with a view to improving the aesthetic value of our roadsides.

The trees and shrubs formerly contained in nurseries in various sections of the State on rented or borrowed land have been transferred to the newly acquired Nursery at Sudbury and, although this Nursery has already proven its value to the department, it will be several years before the maximum use can be made of it.

SIDEWALK CONSTRUCTION ON STATE HIGHWAYS

Under Chapter 439, Acts of 1931, the Department made use of many of the State's unemployed through the construction of sidewalks along State highways where a definite need had been established and the unemployment situation in that locality appeared to be acute. In each case where a sidewalk was constructed the Department cooperated with the cities and towns in the employment of the labor necessary by using only men recommended to them by the Welfare Boards or Officials of the towns and cities. In each case the town or city in which the sidewalk was constructed agreed with the Department to maintain the sidewalk after construction.

FEDERAL AID IN CONSTRUCTING HIGHWAYS

Statements as to the acts of Congress and of the Massachusetts Legislature with respect to cooperation between the United States and the states in the construction and maintenance of highways, including the Federal Highway Act approved Nov. 9, 1921, may be found in the annual reports of this Department for the years 1920-1927, inc.

The following Federal aid allotments have thus far been made to Massachusetts:—

For fiscal year ending June 30, 1917	\$73,850 94
For fiscal year ending June 30, 1918	147,701 90
For fiscal year ending June 30, 1919	958,145 15
For fiscal year ending June 30, 1920	1,400,078 27
For fiscal year ending June 30, 1921	1,472,788 83
For fiscal year ending June 30, 1922	1,096,176 04
For fiscal year ending June 30, 1923	730,784 03
For fiscal year ending June 30, 1924	950,448 62
For fiscal year ending June 30, 1925	1,089,806 22
For fiscal year ending June 30, 1926	1,099,891 00
For fiscal year ending June 30, 1927	1,089,055 00
For fiscal year ending June 30, 1928	1,089,100 00
For fiscal year ending June 30, 1929	1,088,808 00
For fiscal year ending June 30, 1930	1,090,077 00
For fiscal year ending June 30, 1931	1,821,569 00
For fiscal year ending June 30, 1932	1,813,916 00
For fiscal year ending June 30, 1933	1,511,244 00

Total \$18,523,440 00

In addition to the above, an allotment from "Federal Emergency Advance Funds" amounting to \$1,141,460.00 was made in 1931 and an allotment from the Federal Emergency Relief and Construction Act amounting to \$1,716,612.00 was made in 1932.

The total amount received by Massachusetts from 1916 to November 30, 1932 is \$17,106,256.56*.

Projects to the number of 21 have been prepared in addition to those shown in the report of the Department of Public Works for 1931. The total mileage included in the various Federal aid road projects in this state, from the commencement of work of this character to November 30, 1932, inclusive, is 940.843. The mileage in various counties is:—

Barnstable, 93.171 miles	Hampden, 52.998 miles
Berkshire, 119.213 miles	Hampshire, 48.987 miles
Bristol, 83.548 miles	Middlesex, 82.695 miles
Dukes, 3.117 miles	Norfolk, 81.370 miles
Essex, 73.863 miles	Plymouth, 99.959 miles
Franklin, 42.498 miles	Worcester, 159.424 miles

STATEMENT OF FEDERAL AID ROAD PROJECTS* TO NOV. 30, 1932

No.	TOWN OR CITY	Miles	Amount of Federal Aid Involved	Amount received	Remarks
1	Acushnet-Fairhaven	2.182	\$21,820 00	\$21,820 00	Work completed.
2	Hanover	2.703	19,480 36	19,480 36	Work completed.
R-2	Hanover	2.615	39,225 00	39,225 00	Work completed.
3	Malden-Melrose-Saugus	1.162	11,620 00	11,620 00	Work completed.
4	Danvers	1.325	15,460 22	15,460 22	Work completed.
5	Windsor-Dalton	3.240	64,800 00	64,800 00	Work completed.
6	Sandwich	1.818	10,678 02	10,678 02	Work completed.
7	Cummington	4.659	86,816 53	86,816 53	Work completed.
8	Athol-Petersham	7.016	90,074 51	90,074 51	Work completed.
9	Saugus	3.122	65,472 27	65,472 27	Work completed.
10	Braintree	2.420	40,554 80	40,554 80	Work completed.
11	Concord-Acton-Littleton	4.849	77,600 87	77,600 87	Work completed.
12	Ipswich	2.173	21,851 50	21,851 50	Work completed.
E-12	Ipswich	2.081	16,000 00		Work underway.
13	Littleton-Groton	6.450	130,504 25	130,504 25	Work completed.
14	Barnstable	3.331	22,687 65	22,687 65	Work completed.
15	Norwell-Hingham	4.380	59,501 75	59,501 75	Work completed.
17	Lynnfield-Peabody	1.794	35,880 00	35,880 00	Work completed.
18	Lunenburg	2.797	55,940 00	55,940 00	Work completed.
19	Taunton	2.116	42,320 00	42,320 00	Work completed.
20	Tewksbury	2.909	35,211 82	35,211 82	Work completed.
21	Pittsfield-Hancock	3.637	72,483 32	72,483 32	Work completed.
E-21-A	Hancock-Pittsfield	2.773	14,000 00		Work underway.
E-21B	Hancock	1.098	11,000 00		Work underway.

* Includes \$1,141,460.00 Federal Emergency Advance funds.
All of these projects are now, or will be later, State highways.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1932 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid Involved	Amount received	Remarks
22	Greenfield-Bernardston	6.426	88,270 71	88,270 71	Work completed.
23	Great Barrington	2.123	31,348 89	31,348 89	Work completed.
24	Seekonk	2.756	19,527 75	19,527 75	Work completed.
R24	Seekonk	2.756	41,340 00	41,340 00	Work completed.
25	Billerica	0.573	33,339 77	33,339 77	Work completed.
26	Greenfield-Shelburne:				
	Section 1	5.134	102,680 00	102,680 00	Work completed.
	Section 2	4.401	83,020 00	88,020 00	Work completed.
27	Hamilton-Wenham	1.766	20,207 27	20,207 27	Work completed.
28	Lanesborough:				
	Section A	0.990	19,780 00	19,780 00	Work completed.
	Section B	2.690	53,800 00	53,800 00	Work completed.
29	Ware	2.626	46,557 55	46,557 55	Work completed.
30	Brimfield	4.206	34,120 00	34,120 00	Work completed.
31	Danvers-Peabody	1.107	22,140 00	22,140 00	Work completed.
32	Huntington	3.073	97,163 48	97,163 48	Work completed.
33	Acton-Littleton:				
	Section A	2.182	43,640 00	43,640 00	Work completed.
	Section B	1.624	25,847 25	25,847 25	Work completed.
34	Dudley	1.359	27,180 00	27,180 00	Work completed.
35	Haverhill-Methuen	4.544	90,880 00	90,880 00	Work completed.
36	Eastham-Wellfleet-Provincetown:				
	Section A	10.690	91,347 85	91,347 85	Work completed.
	Section B	6.548	75,935 60	75,935 60	Work completed.
	Section C	8.043	86,130 51	86,130 51	Work completed.
37	Egremont	1.164	20,579 07	20,579 07	Work completed.
38	Peabody-Danvers	2.827	56,540 00	56,540 00	Work completed.
39	Williamstown-New Ashford-Lanesborough:				
	Section A	0.020	9,123 64	9,123 64	Work completed.
	Section B	3.323	65,980 00	65,980 00	Work completed.
	Section C	4.590	68,850 00	68,850 00	Work completed.
40	East Brookfield	1.011	20,220 00	20,220 00	Work completed.
41	Ashby	1.250	22,141 03	22,141 03	Work completed.
42	Washington	2.291	45,820 00	45,820 00	Work completed.
43	Leicester	0.633	12,760 00	12,760 00	Work completed.
44	Goshen-Cummington-Windsor:				
	Section A	1.494	29,880 00	29,880 00	Work completed.
	Section B	1.479	50,183 37	50,183 37	Work completed.
	Section C	3.780	82,915 42	82,915 42	Work completed.
	Section D	3.022	54,874 60	54,874 60	Work completed.
45	Palmer:				
	Sections A and C	1.795	35,900 00	35,900 00	Work completed.
46	Upton-Hopedale:				
	Section A	1.672	33,440 00	33,440 00	Work completed.
47	Barre-Oakham	1.737	37,200 75	37,200 75	Work completed.
50	Lunenburg	1.763	35,260 00	35,260 00	Work completed.
51	Mendon-Uxbridge:				
	Section A	1.959	39,180 00	39,180 00	Work completed.
	Section B	2.504	50,080 00	50,080 00	Work completed.
52	Oxford	3.208	64,160 00	64,160 00	Work completed.
53	East Brookfield-Spencer-West Brookfield:				
	Section A	0.890	17,800 00	17,800 00	Work completed.
	Section B	1.682	33,640 00	33,640 00	Work completed.
54	Leicester:				
	Section A	0.829	16,580 00	16,580 00	Work completed.
	Section B	2.691	53,820 00	53,820 00	Work completed.
55	Quincy	0.549	10,980 00	10,980 00	Work completed.
56	Stoughton	2.141	42,820 00	42,820 00	Work completed.
57	Winchester-Woburn	3.042	59,131 31	59,131 31	Work completed.
58	Littleton	1.345	26,900 00	26,900 00	Work completed.
59	Egremont	0.784	15,678 18	15,678 18	Work completed.
60	Middleton-Danvers	1.907	38,224 70	38,224 70	Work completed.
61	Winchendon-Templeton	5.393	106,117 44	106,117 44	Work completed.
62	Danvers-Topsfield:				
	Section A	3.009	60,180 00	60,180 00	Work completed.
	Section B	3.513	76,959 91	76,959 91	Work completed.
63	Essex-Ipswich	4.489	89,780 00	89,780 00	Work completed.
64	Norwood	1.065	21,300 00	21,300 00	Work completed.
65	North Adams	1.638	32,760 00	32,760 00	Work completed.
69	Haverhill	2.657	53,049 24	53,049 24	Work completed.
70	Palmer	2.550	51,000 00	51,000 00	Work completed.
71	Wrentham	1.846	36,940 00	36,940 00	Work completed.
72	Walpole	3.078	61,560 00	61,560 00	Work completed.
73	Southwick	6.879	111,757 95	111,757 95	Work completed.
74	Becket	0.156	13,095 66	13,095 66	Work completed.
R74	Becket	0.189	10,290 54	10,290 54	Work completed.
75	Topsfield-Ipswich-Rowley-Newbury:				
	Section A	10.207	207,163 37	207,163 37	Work completed.
76	Norfolk	1.447	23,940 00	23,940 00	Work completed.
77	Merrimac	1.020	20,397 73	20,397 73	Work completed.
78	Burlington	3.761	75,220 00	75,220 00	Work completed.
79	Great Barrington	2.291	59,820 00	59,820 00	Work completed.
79B	Great Barrington	0.028	8,522 99	8,522 99	Work completed.
80	Lee:				
	Section A	0.909	18,180 00	18,180 00	Work completed.
	Section B	0.233	4,245 00	4,245 00	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1932 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid Involved	Amount received	Remarks
83	Pembroke	2.121	31,815 00	31,815 00	Work completed.
84	Sterling-West Boylston	3.491	51,974 04	51,974 04	Work completed.
85	Dalton-(Hinsdale Road):				
	Section A	1.033	20,660 00	20,660 00	Work completed.
	Section B	0.066	7,120 50	7,120 50	Work completed.
86	Gay Head	3.117	40,783 51	40,783 51	Work completed.
87	Dalton (Windsor Road):				
	Section A	1.056	21,120 00	21,120 00	Work completed.
	Section B	0.038	5,429 50	5,429 50	Work completed.
88	Erving	4.537	67,485 00	67,485 00	Work completed.
89	Easton:				
	Sections A and B	3.540	70,800 00	70,800 00	Work completed.
	Section C	3.840	62,400 00	62,400 00	Work completed.
90	Brookfield-East Brookfield	1.227	25,324 95	25,324 95	Work completed.
91	Lowell	0.977	19,537 87	19,537 87	Work completed.
93	Wilbraham	0.208	67,506 06	67,506 06	Work completed.
94	Otis-Sandisfield	7.565	122,931 25	122,931 25	Work completed.
95	Westfield	0.148	12,677 08	12,677 08	Work completed.
R95	Westfield	0.148	46,830 07	27,787 58	Work completed.
96	Rochester-Wareham	4.031	68,979 93	68,979 93	Work completed.
98	Sheffield	3.052	61,133 85	61,133 85	Work completed.
99	Gloucester	1.191	19,353 75	19,353 75	Work completed.
100	Rutland	3.640	59,150 00	59,150 00	Work completed.
101A	Hinsdale	0.297	4,455 00	4,455 00	Work completed.
101B	Hinsdale	0.858	24,116 51	24,116 51	Work completed.
102A	Plainville-Wrentham	3.254	48,810 00	48,410 00	Work completed.
103	Adams	0.568	9,230 00	9,230 00	Work completed.
104	Milton	3.534	70,680 00	70,680 00	Work completed.
105	Rehoboth	1.438	28,760 00	28,760 00	Work completed.
106	Bourne	0.522	35,002 00	35,002 00	Work completed.
R106	Bourne-Falmouth	6.458	66,412 31		Work underway.
107	Southampton	2.203	44,060 00	44,060 00	Work completed.
108	Lakeville-Freetown	4.583	71,706 11	71,706 11	Work completed.
109	West Brookfield	0.066	10,283 73	10,283 73	Work completed.
110	Middleborough-Bridgewater	0.109	24,580 87	24,580 87	Work completed.
111	Braintree	0.371	7,200 00	7,200 00	Work completed.
112	No. Attleborough-Attleborough	3.278	65,560 00	65,560 00	Work completed.
113	Swansea	0.692	11,245 00	11,245 00	Work completed.
113B	Swansea-Somerset	3.503	64,439 74	64,439 74	Work completed.
114	Lenox	2.408	39,130 00	39,130 00	Work completed.
115	Plymouth	1.680	25,522 53	25,522 53	Work completed.
116	Norwood-Walpole	2.453	40,878 91	40,878 91	Work completed.
117A	Chelmsford	1.377	27,540 00	27,540 00	Work completed.
117B	Chelmsford-Tyngsboro	4.625	89,713 81	89,713 81	Work completed.
118A	Brookfield	0.620	12,400 00	12,400 00	Work completed.
118B	Brookfield	0.251	3,765 00	3,765 00	Work completed.
119A	Essex	0.406	8,120 00	8,120 00	Work completed.
120A	Lakeville	4.789	71,835 00	71,835 00	Work completed.
120B	Berkeley	0.864	12,960 00	12,960 00	Work completed.
120C	Taunton-Berkeley	2.758	41,370 00	41,370 00	Work completed.
120D	Taunton	0.862	12,930 00	12,930 00	Work completed.
121A	Abington	0.947	17,887 34	17,887 34	Work completed.
121B	Bridgewater	0.113	16,568 31	16,568 31	Work completed.
121C	Weymouth	2.720	40,800 00	40,800 00	Work completed.
121D	E. Bridgewater-Whitman	2.000	30,000 00	30,000 00	Work completed.
121E	Abington	1.088	14,770 42	14,770 42	Work completed.
122A	Barnstable	0.066	18,711 51	18,711 51	Work completed.
122B	Barnstable-Mashpee	2.482	36,349 09	36,349 09	Work completed.
122C	Falmouth-Mashpee	8.137	114,307 02	114,307 02	Work completed.
122D	Barnstable	5.643	44,860 06	44,860 06	Work completed.
122E	Barnstable	1.621	26,313 81		Work completed.
E-122F	Barnstable-Yarmouth	2.395	4,855 78		Work underway.
123A	Southampton	2.461	47,155 67	47,155 67	Work completed.
124A	Wayland	0.189	30,296 68	30,296 68	Work completed.
124B	Marlborough	1.626	24,390 00	24,390 00	Work completed.
124C	Weston	1.004	15,060 00	15,060 00	Work completed.
125A	Wareham	3.086	68,316 11	68,316 11	Work completed.
125B	Wareham	2.761	41,415 00	41,415 00	Work completed.
127A	Holyoke	4.136	62,040 00	62,040 00	Work completed.
127B	Easthampton-Northampton	1.762	74,258 69	74,258 69	Work completed.
128A	Hinsdale	0.066	8,598 63	8,598 63	Work completed.
128B	Hinsdale	0.952	14,280 00	14,280 00	Work completed.
129A	Dighton-Somerset	3.465	51,975 00	51,975 00	Work completed.
129B	Somerset	4.340	65,511 29	65,511 29	Work completed.
130A	Auburn-Oxford	4.208	63,120 00	63,120 00	Work completed.
131A	Wilbraham	0.530	7,950 00	7,950 00	Work completed.
131B	Wilbraham	1.012	15,180 00	15,180 00	Work completed.
132A	Duxbury-Kingston	2.123	31,845 00	31,845 00	Work completed.
133A	North Andover	0.615	9,225 00	9,225 00	Work completed.
133B	North Andover	0.771	11,565 00	11,565 00	Work completed.
133C	North Andover	2.670	35,085 00	35,085 00	Work completed.
134A	Barre	1.217	18,255 00	18,255 00	Work completed.
134B	Barre	1.261	18,915 00	18,915 00	Work completed.
134C	Barre	1.617	24,255 00	24,255 00	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1932 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid Involved	Amount received	Remarks
E-134D	Oakham-Rutland	3.493	20,000 00		Work underway.
135A	Russell	0.557	13,919 60	13,919 60	Work completed.
135B	Westfield-Russell	3.607	54,075 00	54,075 00	Work completed.
135C	Russell	3.291	53,059 55	53,059 55	Work completed.
135D	Russell-Huntington	3.670	55,050 00	55,050 00	Work completed.
136A	Agawam	1.331	19,965 00	19,965 00	Work completed.
136B	Agawam	1.515	22,725 00	22,725 00	Work completed.
136C	Agawam	1.000	15,000 00	15,000 00	Work completed.
137A	Sheffield	0.170	22,710 05	22,710 05	Work completed.
137C	Sheffield	1.532	22,980 00	22,980 00	Work completed.
138A	Chester	0.097	10,818 36	10,818 36	Work completed.
138B	Chester	4.250	92,391 53	92,391 53	Work completed.
138C	Becket	2.742	64,963 68	64,963 68	Work completed.
139A	Brimfield	0.103	6,075 05	6,075 05	Work completed.
139B	Brimfield	4.778	68,916 18	68,916 18	Work completed.
140A	Lenox-Lee	3.519	52,785 00	52,785 00	Work completed.
140B	Lee	0.057	26,620 13	26,620 13	Work completed.
141A	Williamsburg	0.211	8,880 65	8,880 65	Work completed.
141B	Goshen-Williamsburg	5.042	93,547 40	93,547 40	Work completed.
141C	Northampton-Williamsburg	4.146	62,190 00	62,190 00	Work completed.
142A	Fitchburg-Westminster	3.960	69,171 34	69,171 34	Work completed.
142B	Gardner-Westminster	3.699	52,316 73	52,316 73	Work completed.
142C	Gardner-Templeton	4.174	62,610 00	62,610 00	Work completed.
143	Fairhaven-Mattapoisett	3.245	52,079 86	52,079 86	Work completed.
144A	Canton-Stoughton	4.306	64,436 20	64,436 20	Work completed.
145A	Ashland-Holliston	3.330	34,645 01	34,645 01	Work completed.
146A	Paxton	1.783	26,745 00	26,745 00	Work completed.
146B	Paxton-Worcester	4.930	73,950 00	73,950 00	Work completed.
147A	Lenox-Pittsfield	2.349	35,235 00	35,235 00	Work completed.
148A	Raynham	1.657	24,855 00	24,855 00	Work completed.
148B	Raynham-Taunton	2.861	42,915 00	42,915 00	Work completed.
149A	Middleborough	5.586	83,790 00	83,790 00	Work completed.
149B	Middleborough	0.831	12,465 00	12,465 00	Work completed.
150A	Littleton-Westford	1.985	29,775 00	29,775 00	Work completed.
150B	Westford	2.660	39,900 00	39,900 00	Work completed.
151A&B	Swansea-Somerset	0.464	89,138 06	89,138 06	Work completed.
152A	Dartmouth	1.401	21,015 00	21,015 00	Work completed.
152B	Dartmouth	2.858	42,870 00	42,870 00	Work completed.
152C	Westport	4.634	69,510 00	69,510 00	Work completed.
153A	Southampton-Easthampton	1.410	21,150 00	21,150 00	Work completed.
154A	Sturbridge	2.503	37,545 00	37,545 00	Work completed.
155A	West Springfield	0.549	8,235 00	8,235 00	Work completed.
155B	Westfield-W. Springfield	2.348	134,395 92	51,745 58	Work completed.
156A	Orange	1.058	15,870 00	15,870 00	Work completed.
156B	Orange	2.607	39,105 00	39,105 00	Work completed.
156C	Athol-Orange	1.544	24,606 61	24,606 61	Work completed.
157A	Sandisfield-Tolland	0.644	34,803 50	34,803 50	Work completed.
R157A	Sandisfield-Tolland	0.644	5,107 62	5,107 62	Work completed.
157B	Sandisfield	0.473	32,037 28	32,037 28	Work completed.
157C	Sandisfield-Tolland	3.038	45,570 00	45,570 00	Work completed.
157D	Sandisfield	0.219	13,641 74	13,641 74	Work completed.
158A	Dalton	0.430	22,087 67	22,087 67	Work completed.
159A	Seekonk-Rehoboth-Swansea	1.899	49,876 52	49,876 52	Work completed.
159B	Seekonk	2.251	33,765 00	33,765 00	Work completed.
159C	Swansea	2.767	41,505 00	41,505 00	Work completed.
160A	Lenox-Lee-Stockbridge	5.453	81,795 00	81,795 00	Work completed.
161A	Brockton-W. Bridgewater	3.823	57,345 00	57,345 00	Work completed.
161B	Avon-Brockton	2.201	33,015 00	33,015 00	Work completed.
162A	Holliston	3.315	49,725 00	49,725 00	Work completed.
162B	Milford	1.790	26,850 00	26,850 00	Work completed.
163A	Amherst	0.052	3,787 09	3,787 09	Work completed.
163B	Amherst	2.100	31,500 00	31,500 00	Work completed.
164A	Westminster-Winchendon	0.750	42,931 27	42,931 27	Work completed.
164B	Westminster-Ashburnham	3.607	54,105 00	54,105 00	Work completed.
164C	Ashburnham	3.776	56,640 00	56,640 00	Work completed.
164D	Winchendon	2.826	42,390 00	42,390 00	Work completed.
165A	Winchendon	2.460	36,900 00	36,900 00	Work completed.
166	Becket-Otis	6.043	99,077 00	99,077 00	Work completed.
168A	Deerfield	3.043	45,645 00	45,645 00	Work completed.
169A	Merrimac-Amesbury	3.397	50,955 00	50,955 00	Work completed.
E170A	Cohasset-Hingham	3.151	34,273 54		Work underway.
171A	Chelmsford	1.536	23,040 00	23,040 00	Work completed.
172A	Leominster-Sterling	2.718	40,770 00	40,770 00	Work completed.
173A	Cheshire	4.377	74,965 81	74,965 81	Work completed.
173B	Lanesboro	1.742	26,130 00	26,130 00	Work completed.
174A	Marshfield	4.533	67,995 00	67,995 00	Work completed.
175A	Sandwich	0.217	22,181 26	22,181 26	Work completed.
175B	Orleans	1.904	23,601 55	23,601 55	Work completed.
175C	Barnstable	0.927	13,905 00	13,905 00	Work completed.
175D	Sandwich	2.864	35,460 00	35,460 00	Work completed.
175E	Brewster-Orleans	7.858	106,314 45	106,314 45	Work completed.
176A	Plymouth	5.032	70,543 35	70,543 35	Work completed.
176B	Plymouth-Bourne	2.948	44,220 00	44,220 00	Work completed.
177A	Chatham	3.934	48,588 18	48,588 18	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1932 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid Involved	Amount received	Remarks
177B	Orleans	1.802	25,838 02	25,838 02	Work completed.
177C	Dennis	3.219	38,734 30	38,734 30	Work completed.
178A	Chelmsford	1.262	18,930 00	18,930 00	Work completed.
179A	Falmouth	3.394	50,910 00	50,910 00	Work completed.
180A	Franklin-Wrentham	3.125	46,875 00	46,875 00	Work completed.
180B	Bellingham-Franklin	3.889	58,335 00	58,335 00	Work completed.
181A	Florida-North Adams	2.818	42,270 00	42,270 00	Work completed.
181B	Florida	2.736	41,040 00	41,040 00	Work completed.
181C	North Adams-Clarksburg	3.362	50,430 00	50,430 00	Work completed.
181D	Florida-Savoy	3.702	55,530 00	55,530 00	Work completed.
182A	Lunenburg	1.312	19,680 00	19,680 00	Work completed.
183A	Amesbury-Salisbury	1.922	28,830 00	28,830 00	Work completed.
183B	Amesbury	1.329	45,345 32	45,345 32	Work completed.
184A	Charlton	2.848	42,720 00	42,720 00	Work completed.
184B	Charlton-Sturbridge	5.623	84,345 00	84,345 00	Work completed.
184D	Oxford	0.906	22,650 00		Work completed.
185A	Buckland	1.245	18,675 00	18,675 00	Work completed.
185B	Charlemont	2.433	35,640 00	35,640 00	Work completed.
185C	Charlemont	0.421	34,244 36	34,244 36	Work completed.
186	Salisbury	2.405	36,075 00	36,075 00	Work completed.
187A	Bellingham	1.225	18,375 00	18,375 00	Work completed.
187B	Hopedale-Mendon-Bellingham	2.502	34,650 00	34,650 00	Work completed.
188A	Townsend	3.813	57,195 00	57,195 00	Work completed.
188B	Pepperell-Groton	3.868	50,520 00	50,520 00	Work completed.
188C	Groton-Pepperell	1.627	54,509 15	9,516 49	Work completed.
188D	Townsend	0.061	17,849 72	12,635 50	Work completed.
188E	Townsend	0.009	2,400 58		Work completed.
189A	Marion-Wareham	0.582	78,792 57	78,792 57	Work completed.
189B	Mattapoisett	1.804	27,060 00	27,060 00	Work completed.
189C	Marion	4.554	68,310 00	68,310 00	Work completed.
189D	Wareham	1.344	20,160 00	20,160 00	Work completed.
190A	Becket	2.254	33,810 00	33,810 00	Work completed.
190B	Hinsdale	0.307	45,608 50	25,664 75	Work completed.
191A	Falmouth	5.896	81,094 43	81,094 43	Work completed.
191B	Falmouth	1.752	26,280 00	26,280 00	Work completed.
192A	Groveland	1.643	24,645 00	24,645 00	Work completed.
192B	Newburyport	1.745	26,175 00	26,175 00	Work completed.
193A	Hadley	1.985	25,821 78	25,821 78	Work completed.
193B	Hadley	2.662	26,852 35	26,852 35	Work completed.
194A	Athol-Phillipston-Templeton	4.738	71,070 00	71,070 00	Work completed.
195A	Mansfield-Norton	0.960	17,862 40	17,862 40	Work completed.
195B	Mansfield-Norton	2.617	39,255 00	39,255 00	Work completed.
195C	Foxborough-Wrentham	0.927	23,175 00	19,073 98	Work completed.
196A	Millbury-Grafton	4.440	66,600 00	66,600 00	Work completed.
197	Plymouth	6.543	96,288 19	96,288 19	Work completed.
198	Milford-Hopedale-Upton	4.418	66,270 00	66,270 00	Work completed.
199A	Newbury	0.303	127,124 34	127,124 34	Work completed.
199B	Newbury-Rowley	4.437	111,552 35	111,552 35	Work completed.
200A	Rehoboth	1.875	28,125 00	28,125 00	Work completed.
200B	Taunton-Dighton-Rehoboth	5.690	86,868 07	86,868 07	Work completed.
201	Wilbraham	1.530	22,950 00	22,950 00	Work completed.
202A	Hanover-Pembroke	2.601	44,462 11	44,462 11	Work completed.
202B	Duxbury-Kingston-Pembroke	6.164	92,460 00	92,460 00	Work completed.
203	Natick-Wellesley	2.066	30,990 00	30,990 00	Work completed.
204	Erving	3.214	48,210 00	48,210 00	Work completed.
205	Dalton	0.913	22,152 43	22,152 43	Work completed.
206A	Billerica	1.898	35,399 86	35,399 86	Work completed.
206B	Billerica	0.978	14,670 00	14,670 00	Work completed.
206C	Billerica-Chelmsford	2.874	48,356 46	30,679 86	Work completed.
207A	Bridgewater-Middleboro	10.474	173,628 65	173,628 65	Work completed.
208A	Weston	0.186	42,652 01	19,385 85	Work completed.
208B	Weston	1.224	18,360 00	16,655 12	Work completed.
209A	Milton-Quincy-Randolph	3.315	49,725 00		Work completed.
210A	Becket-Lee	7.192	107,880 00	87,320 68	Work completed.
210B	Becket	2.886	43,290 00	43,290 00	Work completed.
211A	Northborough-Shrewsbury-Southborough	11.272	444,715 17	241,627 87	Work completed.
211B	Framingham-Southborough	4.398	82,947 44	66,731 14	Work completed.
211C	Framingham-Natick	4.061	100,200 00	48,248 16	Work underway.
E211D	Wellesley	2.272	40,000 00		Work underway.
E211E	Wellesley	1.108	70,000 00		Work underway.
212	North Attleborough	2.123	46,890 51	39,408 28	Work completed.
213	Attleborough	1.455	58,131 53	58,131 53	Work completed.
214A	Tyngsborough	0.540	236,907 35	173,677 55	Work completed.
215A	Palmer-Monson	0.606	79,452 36	79,452 36	Work completed.
216A	Dedham	0.738	10,935 00	10,935 00	Work completed.
217	Chester-Huntington	3.781	61,090 38	61,090 38	Work completed.
218	Canton-Dedham-Westwood	3.947	202,012 06	129,297 55	Work completed.
219A	Marlborough-Northborough	5.109	87,411 93	82,268 29	Work completed.
219B	Northborough-Shrewsbury	2.578	64,073 71	38,010 58	Work underway.
220A	Foxborough-Plainville-Wrentham	5.722	85,830 00	85,830 00	Work completed.
221	Egremont	2.135	53,375 00	45,712 25	Work completed.
222	Deerfield-Greenfield	0.337	168,855 58	95,019 75	Work completed.
223A	Williamstown	1.789	44,725 00	32,794 29	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1932 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid Involved	Amount received	Remarks
224A	Andover-No. Reading-Reading	4.431	125,109 01	56,711 93	Work completed.
225A	Erving	1.425	89,590 80	23,837 41	Work completed.
225B	Gill-Greenfield	5.147	162,429 00	128,691 45	Work completed.
225C	Erving-Gill	0.017	236,449 23		Work underway.
226A	Auburn-Worcester	4.809	143,134 13	86,735 61	Work underway.
226B	Millbury-Worcester	2.125	219,350 35	102,055 25	Work underway.
226C	Shrewsbury-Worcester	3.015	89,151 11	69,128 91	Work underway.
227	Foxborough-Sharon-Wrentham	4.314	178,951 92	120,407 27	Work completed.
228A	Uxbridge	4.171	128,280 31	51,179 95	Work completed.
229A	Dedham-Westwood-Needham	3.448	100,412 55	79,752 13	Work underway.
229B	Needham-Wellesley	3.653	103,047 67	52,717 33	Work underway.
230A	Salisbury	2.184	43,990 79		Work completed.
231A	Sharon-Walpole-Norwood	5.458	143,527 10	120,004 77	Work completed.
231B	Dedham-Westwood-Norwood	3.566	168,318 57		Work underway.
232A	Littleton	0.420	44,811 22		Work completed.
233A	Lakeville-Middleborough	4.112	135,116 08	103,127 43	Work completed.
E235-A	Wellesley	1.360	35,000 00		Work underway.
E236	Lakeville-Middleborough-Taunton-Raynham	6.344	60,000 00		
238A	Granby	3.154	50,894 40	11,301 22	Work underway.
E238B	Belchertown	2.812	20,000 00		Work underway.
240A	Worcester-West Boylston	2.229	41,448 73		Work underway.
Total		940.843	\$18,434,259 37	\$15,964,796 56	

STATEMENT OF FEDERAL EMERGENCY ADVANCE FUNDS

No.	TOWN OR CITY	Amount of Federal Aid Involved	Amount received	Remarks
122D	Barnstable	\$116,571 15	\$116,571 15	
124C	Weston	132,685 22	132,685 22	
188C	Groton-Pepperell	9,516 49	9,516 49	
199B	Newbury-Rowley	62,185 37	62,185 37	
203B	Weston	78,216 94	78,216 94	
219A	Marlborough-Northborough	329,743 37	329,743 37	
220A	Foxborough-Plainville-Wrentham	286,202 25	286,202 25	
224A	Andover-No. Reading-Reading	90,544 85	90,544 85	
225A	Erving	35,794 36	35,794 36	
Total		\$1,141,460 00	\$1,141,460 00	

STATEMENT OF FEDERAL EMERGENCY RELIEF AND CONSTRUCTION ACT

E-12	Ipswich	43,121 59	Underway
E-21A	Hancock-Pittsfield	117,713 39	Underway
E-21B	Hancock	62,577 35	Underway
E-122F	Barnstable-Yarmouth	78,001 36	Underway
E-134D	Oakham-Rutland	87,991 78	Underway
E-170A	Cohasset-Hingham	255,600 00	Underway
E-211D	Wellesley	203,119 63	Underway
E-211E	Wellesley	312,873 09	Underway
E-235A	Wellesley	86,773 19	Underway
E-236	Lakeville-Middleborough-Taunton-Raynham	392,119 17	Underway
E-238B	Belchertown	59,214 08	Underway
Total obligated		\$1,699,104 63	
Not obligated		17,507 37	
Total apportionment		\$1,716,612 00	

BRIDGES

During the year the Department has prepared designs and plans for, and done other work relating to, bridges throughout the Commonwealth. The various cities and towns, the localities therein, the character of the structure and other details are as follows:

BRIDGES AND STRUCTURES BUILT OR CONTRACTED FOR

Cities and Towns, Locality and Character of Structure

Alford — Green River Road over Green River; two 33-foot spans, reinforced concrete beam and slab.

Ashland — Homer Avenue over Cold Spring Brook; one 17-foot span, reinforced concrete slab.

Belchertown — Enfield Road over Jabish Brook; one 20-foot span, reinforced concrete slab.

- Belchertown — Parker Road over Jabish Brook; one 18-foot span, reinforced concrete slab.
- Charleiton — Sturbridge Road over Cady Brook; one 12-foot span, reinforced concrete slab.
- Dartmouth — Pctomska Road over Little River; two 18-foot spans, reinforced concrete beam and slab; one 63-foot span, steel girder.
- Dedham — Providence Turnpike over Circumferential Highway; one 83-foot span, steel deck girder with reinforced concrete floor.
- Dedham — Providence Turnpike over High Street; one 73-foot span, steel deck girder with reinforced concrete floor.
- Dedham — Providence Turnpike over Williams Street; one 64-foot span, steel deck girder with reinforced concrete floor.
- Dedham — Reinforced concrete mat and culvert at sites of High Street and Williams Street Bridges.
- Dedham — Retaining walls at High Street and Williams Street bridges.
- Dighton — Taunton Road at Taunton line over Three Mile River; one 42-foot span, reinforced concrete beam and slab.
- Edgartown — At Oak Bluffs line over Sengekontacket Pond; sixteen 15-foot spans, timber trestle.
- Framingham — Concord Street over Sudbury River; two 28-foot spans, reinforced concrete beam and slab.
- Granby — Belchertown Road over Forge Pond Brook; one 15-foot span, reinforced concrete slab.
- Granville — Main Road at Tolland line over Hubbard River; one 26-foot span, reinforced concrete beam and slab.
- Hingham — Cohasset Road over tracks of New York, New Haven and Hartford Railroad, one 57-foot span, steel stringers with reinforced concrete floor.
- Hingham — Cohasset Road over Weir River; one 17-foot span, reinforced concrete slab.
- Hinsdale — Fassell Road over branch of Housatonic River; one 20-foot span, reinforced concrete slab.
- Lee — West Park Street over Canal; one 23-foot span, reinforced concrete beam and slab.
- Lee — West Park Street over Housatonic River; two 60-foot spans, steel stringers with reinforced concrete floor.
- Middleborough — Cattle pass over Thompson Street; two 24-foot spans and one 40-foot span, reinforced concrete girder.
- Needham — Circumferential Highway under tracks of New York, New Haven and Hartford Railroad; one 75-foot span, steel girder.
- Needham — Highland Avenue over Circumferential Highway; one 63-foot span, concrete rigid frame.
- Newbury — Middle Street over Parker River; one 42-foot span, steel stringer.
- Newton — Retaining walls at Centre Street on Worcester Turnpike.
- Newton — Retaining walls at Quinobequin Road and Chestnut Street, on Worcester Turnpike.
- Newton — Retaining walls at Parker Street on Worcester Turnpike.
- Newton — Worcester Turnpike over Centre Street; one 93-foot span, three-hinged steel arch.
- Newton — Worcester Turnpike over Chestnut Street; one 50-foot span, reinforced concrete rigid frame.
- Newton — Worcester Turnpike over Quinobequin Road; one 51-foot span, reinforced concrete rigid frame.
- Newton — Worcester Turnpike over Sudbury Aqueduct; one 9-foot span, reinforced concrete saddle.
- Newton — Worcester Turnpike under Parker Street; two 30-foot spans, steel stringers with reinforced concrete floor.
- Pittsfield — State Highway over Phelps Brook; one 31-foot span, reinforced concrete beam and slab.

- Revere — Beach Street over tracks of Boston and Maine Railroad; two 35-foot spans, reinforced concrete beam and slab, one 62-foot span, steel girders.
- Savoy — Adams Road over Westfield River; one 24-foot span, reinforced concrete beam and slab.
- Savoy — Adams Road over Sturtevant Brook; one 24-foot span, reinforced concrete beam and slab.
- Wellesley — Worcester Turnpike over tracks of Boston and Albany Railroad, one 83-foot span, steel plate girder.
- Wellesley — Worcester Turnpike over Aqueduct at Station 11+91; one 6-foot span, reinforced concrete saddle.
- Wellesley — Worcester Turnpike over Weston Road; one 58-foot span, reinforced concrete rigid frame.
- Wellesley — Worcester Turnpike under Washington Street; two 75-foot spans, steel deck plate girders with reinforced concrete floor.
- Wellesley — Worcester Turnpike under Cedar Street; two 40-foot spans, steel stringers with reinforced concrete, concrete floor.
- Wellesley — Worcester Turnpike over Cliff Road; one 50-foot span, reinforced concrete rigid frame.
- Wellesley — Cliff Road over tracks of Boston & Albany Railroad; one 64-foot span, steel plate girder.
- Wellesley — Worcester Turnpike over Aqueduct at Station 147; one 6-foot span, reinforced concrete saddle.
- Wellesley — Worcester Turnpike over Rosemary Brook; one 12-foot span, reinforced concrete slab.
- Wellesley — Retaining walls at Washington Street bridge on Worcester Turnpike.
- Westfield — Main Street over Powder Mill Brook; twenty-two 18-foot spans and one 32-foot span, reinforced concrete pile trestle.
- Westfield — Main Street over Westfield River; two 50-foot spans, steel stringer and one 273-foot span through steel truss.
- Westwood — Providence Turnpike under tracks of New York, New Haven and Hartford Railroad; one 99-foot span, steel plate girder.
- Worthington — Huntington Road over Ward's Stream; one 8-foot span, reinforced concrete box culvert.

ALTERATIONS, REPAIRS AND EXTENSIONS TO BRIDGES AND STRUCTURES MADE OR CONTRACTED FOR

- Billerica — At Wilmington line, Aqueduct bridge over Shawsheen River; extension to existing reinforced concrete arch, 21-foot span.
- Charlton — Southbridge Road over Cady Brook, Sta. 94; extension to reinforced concrete beam and slab, 17-foot span.
- Charlton — Southbridge Road over Cady Brook, Sta. 129; extension to reinforced concrete beam and slab, 20-foot span.
- Charlton — Southbridge Road over Cady Brook, Sta. 17; alteration of bridge fence.
- Dalton — Main Street over Housatonic River; steel bridge repainted.
- Egremont — Under Mountain Road over Guilder Brook; extension to reinforced concrete beam and slab, 24-foot span.
- Greenfield — At Montague line, Montague City Bridge over Connecticut River; repairs to trusses and roof.
- Hingham — Bridge at Otis and Summer Streets; repairs to existing concrete beams.
- Lee — Center Street bridge over Housatonic River; repainting steel.
- Needham — Greendale Avenue over tracks of New York, New Haven and Hartford Railroad; one 32-foot span, reinforced concrete arch extension.
- Newton — Worcester Turnpike over Charles River; extensions to two existing stone faced concrete arches, one 14-foot span and one 50-foot span.

- Newton — Worcester Turnpike over East Branch of Charles River; extension to stone faced concrete arch, 20-foot span.
- North Adams — Greylock Bridge over Hoosic River; repainting steel.
- Oakham — Athol Road over Brook; extension to reinforced concrete arch, 10-foot span.
- Oakham — Athol Road over Mill Pond; extension to reinforced concrete beam and slab, 24-foot span.
- Oxford — Charleton Road over French River; extension to reinforced concrete arch, 16-foot span.
- Pittsfield — Lebanon Avenue over West Branch Housatonic River; extension to reinforced concrete beam and slab, 30-foot span.
- Pittsfield — Hancock Road over Shaker Brook; extension to reinforced concrete beam and slab, 18-foot span.
- Pittsfield — Woodleigh Avenue over Brook; extension to reinforced concrete culvert, 8-foot span.
- Sandisfield — At Tolland line, State Line bridge over Farmington River; repainting steel.
- Sandisfield — Hanging Mountain bridge over Farmington River; repainting steel.
- Sheffield — Blodgett's bridge over Housatonic River; repainting steel.
- Shrewsbury — Boston Post Road over Brook; extension to reinforced concrete slab, 13-foot span.
- Southwick — South Longyard Road over Great Brook; extension to reinforced concrete slab, 11-foot span.
- Southwick — South Longyard Road over canal; extension to reinforced concrete slab, 8-foot span.
- Tewksbury — Main Street over Shawsheen River; extension to 2-span reinforced concrete beam and slab, 20-foot spans.
- Tyngsborough — Tyngsborough Bridge over Merrimack River and tracks of Boston & Maine Railroad; reinforced concrete hood over railroad tracks.
- Wareham — State highway over Weweantic River; extension to reinforced concrete beam and slab, 25-foot span.
- Wareham — State highway over Parker Mills Pond; extension to reinforced concrete beam and slab, 30-foot span.
- Worthington — Huntington Road over Little River; extension to reinforced concrete beam and slab, 28-foot span.
- Worthington — Huntington Road over Ward's Stream; extension to reinforced concrete beam and slab, 20-foot span.

CONTEMPLATED BRIDGES AND STRUCTURES

Plans, Studies or Estimates made

Cities and Towns, Locality and Character of Structure.

- Arlington — Grade separation on Cambridge-Concord Highway at Pleasant Street.
- Attleboro — Washington Street over tracks of New York, New Haven and Hartford Railroad.
- Ayer — West Main Street over tracks of Boston and Maine Railroad.
- Belchertown — Granby Road over tracks of Boston and Maine Railroad and tracks of Central Vermont Railroad. Bondsville Road over Reservoir Outlet, over canal, and over tracks of Boston and Maine Railroad.
- Boston — Viaduct over tracks of Midland Division of New York, New Haven and Hartford Railroad, Neponset River, and River Street connecting Neponset River Parkway with the proposed extension of Canterbury Street; grade separations on proposed Clarendon Hills Parkway at Hyde Park Avenue, over tracks of the New York, New Haven and Hartford Railroad, and Poplar Street. East Boston Tunnel Road over road and proposed tracks of Boston and Maine Railroad near Orient Heights. Grade separation at Huntington Avenue and

- the Riverway. Relocation of highway at Pauls Bridge over Neponset River.
- Brookline — Grade separation on Worcester Turnpike at Brookline Village and at Cypress Street.
- Cambridge — Traffic Circle at Junction of Alewife Brook Parkway and Cambridge-Concord highway.
- Clarksburg — Extension to arch over Hoosic River.
- Cohasset — Proposed bridge over tracks of New York, New Haven and Hartford Railroad, near Black Rock Station.
- Colrain — Center bridge over East Branch of North River.
- Concord — Bridges on Cambridge-Concord highway over Concord River and over tracks of Boston and Maine Railroad.
- Conway — Bridges on Deerfield Road over Mill River.
- Dartmouth — At Westport Factory over Noquochoke Lake.
- Deerfield — Extensions to bridges on Conway Road over Mill River.
- Great Barrington — North Plain Road over Williams River.
- Hinsdale — Middlefield Road over Housatonic River.
- Lakeville — Taunton Road at Middleborough line over Poquay Trout Brook.
- Lawrence — Salem Turnpike over Shawsheen River.
- Lexington — Grade separation of proposed Cambridge-Concord highway and Waltham Street.
- Lincoln — South Great Road over tracks of Boston and Maine Railroad.
- Littleton — State highway over tracks of Boston and Maine Railroad.
- Lynn — Point of Pines bridge over Saugus River at the Revere line.
- Newbury — Newburyport Turnpike over tracks of Boston and Maine Railroad.
- Newton — Worcester Turnpike over Hammond Pond Parkway.
- Oxford — Webster Road under tracks of New York, New Haven and Hartford Railroad; Webster Road over Taft Brook.
- Pittsfield — Lebanon Avenue over tracks of Boston and Albany Railroad and over Shaker Brook.
- Quincy — Washington Street over Weymouth Fore River, at Weymouth line.
- Raynham — Taunton Turnpike over Taunton River, over Haskins Brook and over Damlot Brook.
- Revere — East Boston Tunnel Road over oil pipe corridor and over Revere Beach Parkway and Winthrop Avenue, over highway and tracks of Boston and Maine Railroad. Traffic Road at Point of Pines over tracks of Boston, Revere Beach and Lynn Railroad and private property. Highway under Parkway near Eliot Circle.
- Templeton — Phillipston Road over Crow Hill Brook.
- Waltham — Main Street over tracks of Boston and Maine Railroad at Beaver Brook Station.
- Weymouth — Main Street over tracks of New York, New Haven and Hartford Railroad.
- Winchester — Grade separation of highway and tracks of Boston and Maine Railroad.
- Yarmouth — West Yarmouth Road over Parkers River.

Examinations, Reports, Estimates, etc., at Request of Counties, Cities and Towns

- Amesbury — Chain Bridge over Merrimack River; examination and report of condition.
- Amesbury — Essex-Merrimac Bridge over Merrimac River; examination and report of condition.
- Amherst — Meadow Street Bridge, North Amherst; examination and estimate for a new bridge.
- Ashland — Howe Street over Indian Brook; examination and estimate for a new bridge.
- Bedford — Middlesex Turnpike over Shawsheen River; examination and advice on strength of bridge under construction.

- Chester — Main Street over West Branch of Westfield River; examination and estimate of repairs to bridge.
- Conway — Bardwell's Bridge over Deerfield River; examination and estimate for repairs.
- Framingham — Herbert Street over Beaver Dam Brook; examination and estimate for reconstruction of bridge.
- Gill — At Montague line over Connecticut River; examination and advice on repairs to bridge.
- Greenfield — Site of Smead Bridge; estimate for new bridge.
- Millville — Central Street over Blackstone River; examination and estimate for new bridge.

*Examinations, Reports, Estimates, etc., by direction of the Department
Cities and Towns, Locality and Subject*

- Boston — Commonwealth Pier heating plant; advice on boiler installation.
- Boston — D Street garage of Department; investigation of floor design.
- Boston — New building for Public Works Department; investigation of design of basement floor.
- Colrain — Center Bridge over East Branch of North River; estimate for cost of reconstruction.
- Dighton — At the Taunton line over Three Mile River; estimate for widening bridge.
- Marshfield — State highway over South River; estimate for widening bridge.
- Newburyport — At the Salisbury line over Merrimack River; estimate for repairs to bridge.

Bridge Plans Submitted and Examined during the Year under the provisions of Chapter 85, General Laws, as amended by Chapter 313 of Acts of 1923

- Athol — Reconstruction of bridge on Chestnut Street over Mill Brook; reinforced concrete arch, 13-foot span.
- Concord — Repairs and additions to the three-arch bridge on Elm Street over Concord River.
- Fall River — Extension of Third Street Bridge over Quequechan River.
- Haverhill — Reconstruction of Country Bridge over East Meadow Brook; one 17-foot span.
- Haverhill — Reconstruction of North Avenue Bridge over Snow's Brook; one 12-foot span.
- Haverhill — Reconstruction of Brandy Brow Bridge over East Meadow one 13-foot span.
- Hingham — At the Weymouth line; alterations to Back River Bridge.
- Pittsfield — Bridge on West Housatonic Street over Southwest Branch of Housatonic River; one 28-foot span, steel stringer with concrete floor.
- Winchendon — George M. Whitney Memorial Bridge over Millers River; two 24-foot spans and one 26-foot span, reinforced concrete arches.
- Worcester — Southbridge Street Bridge over Blackstone River; two spans, steel stringer bridge.

*Examinations, Studies, Estimates and Reports by direction of
Acts and Resolves of the Legislature*

- Chapter 450, Acts of 1931, Section 8. This section of the Act directs the department of public works "to make surveys and prepare plans and estimates of cost of a grade separation by means of an overpass at the intersection of the Riverway and Huntington Avenue in the City of Boston". Preliminary plans and estimates have been made.
- Chapter 241, Acts of 1932. "An Act providing for the construction of a new bridge over the Saugus river between the Point of Pines in the city of Revere and the city of Lynn". Plans and specifications have been completed.

Chapter 258, Acts of 1932, Section 1. This section directs the department to lay out and construct a state highway "including any necessary alterations to the bridge at Beach Street, crossing the tracks of said railroad", referring to the Boston and Maine Railroad. The contract for the work has been awarded and construction work has started.

Chapter 302, Acts of 1932. "An Act authorizing the laying out of a State highway extending from Alewife Brook Parkway in the city of Cambridge westerly through said city and the towns of Arlington, Belmont, Lexington, Lincoln and Concord." Preliminary studies for bridges in Concord have been made.

Chapter 25, Resolves of 1932. "Resolves providing for an investigation and study by the department of public works of traffic conditions on a portion of the Fall River-New Bedford highway." The report has been filed with the clerk of the house of representatives.

Chapter 27, Resolves of 1932. "Resolve providing for an investigation by the department of public works relative to the advisability of further dredging Lynn Harbor and Saugus River and of widening draws in bridges over said river." The report has been filed with the clerk of the house of representatives.

Chapter 32, Resolves of 1932. "Resolve providing for the making and preparation by the department of public works of surveys, estimates, plans and specifications for the construction of a new high level bridge over the Weymouth Fore River between the city of Quincy and the town of Weymouth." The report has been filed with the clerk of the senate.

BRIDGE OVER THE MERRIMACK RIVER BETWEEN NEWBURYPORT AND SALISBURY

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1932, was 220. In 1931 the number of such openings was 415; in 1930 the number was 335: In 1929 the number was 383.

The total expenditure during the year was \$6,839.12.

The total expenditure from 1912 to Nov. 30, 1932, inclusive, was \$178,461.68.

BRIDGE OVER TAUNTON RIVER BETWEEN FALL RIVER AND SOMERSET

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and for operating the draw and maintaining the structure shall be paid by the Commonwealth.

Repairs made in 1932 consisted of driving steel sheeting at channel and repairs to foundations and fender piers.

The number of draw openings during the year ending Nov. 30, 1932, was 1,662. In 1931 the number of such openings was 1,700; in 1930 the number was 1,812; in 1929 the number was 1,789.

The total expenditure during the year was \$13,225.34.

The total expenditure from 1912 to Nov. 30, 1932, inclusive, was \$354,914.88.

BRIDGE OVER THE ACUSHNET RIVER BETWEEN CITY OF NEW BEDFORD AND THE TOWN OF FAIRHAVEN

This bridge, which was placed in charge of the Department of Public Works and made a State highway by the provisions of Chapter 406, Acts

of 1930, which also provided that the expense of keeping the bridge in good repair for travel, operating the draw and of maintaining the structure shall be paid by the Commonwealth, was taken over by the Department on June 27, 1930.

Repairs made in 1932 consisted of driving steel sheeting at channel and repairs to foundations and fender piers.

Averaged over a period of years, the draw openings have numbered more than 2,900 annually.

The number of draw openings while in charge of the Department beginning June 27, 1930, and ending Nov. 30, 1932, was 1,069. In 1931 the number of such openings was 2,564; and in 1932 the number was 2,384.

The total expenditure during the year was \$18,176.50.

The total expenditure while in charge of the Department has been \$51,004.99.

CONSTRUCTION OF TOWNS AND COUNTY WAYS

(Section 34, Chapter 90, General Laws, as revised and amended)

During the year the Department has contracted for work to be done in the towns / cities named in the following table, which also shows the type of road, the length contracted for, and the allotments or contributions by the State, towns / cities and counties:

COUNTIES AND TOWNS	CONTRIBUTIONS			Type of road	Length contracted for (Feet)
	State	Town	County		
<i>Barnstable County</i>					
Mashpee	\$1,600 00	—	\$1,600 00	Grading	2,400
<i>Berkshire County</i>					
Adams	8,000 00	\$8,000 00	8,000 00	Gravel and tar	4,000
Alford	6,000 00	2,500 00	3,500 00	Bridge and approaches	—
Becket	1,000 00	500 00	500 00	Gravel	900
Becket	2,000 00	1,000 00	1,000 00	Gravel	1,200
Becket	1,000 00	500 00	500 00	Gravel	575
Becket	1,250 00	625 00	625 00	Gravel (widening)	7,392
Cheshire	8,000 00	4,000 00	4,000 00	Gravel	5,200
Clarksburg	1,000 00	500 00	500 00	Gravel	900
Egremont	3,200 00	1,600 00	1,600 00	Stone retread	7,000
Florida	4,000 00	4,000 00	—	Gravel	2,550
Great Barrington	15,000 00	15,000 00	—	Bituminous macadam	6,600
Hancock	12,500 00	500 00	2,000 00	Bituminous macadam	2,600
Hancock	1,350 00	500 00	—	Oiling	37,200
Hancock	1,000 00	500 00	1,000 00	Gravel	850
Hinsdale	3,250 00	500 00	1,250 00	Bridge and approaches	—
Lanesborough	4,000 00	2,000 00	2,000 00	Stone retread	2,800
Lee	10,000 00	10,000 00	10,000 00	2 Bridges	—
Lenox	15,000 00	20,000 00	—	Bituminous macadam	2,907
Monterey	5,000 00	3,500 00	3,500 00	Stone retread	13,483
Mount Washington	1,500 00	500 00	1,000 00	Gravel	750
New Marlborough	1,875 00	1,250 00	1,000 00	Stone retread	5,500
New Marlborough	1,875 00	1,250 00	1,000 00	Stone retread	5,150
New Marlborough	3,750 00	2,500 00	2,000 00	Stone retread	10,300
New Marlborough	1,000 00	1,000 00	1,000 00	Gravel	2,400
Otis	4,000 00	500 00	4,000 00	Gravel	1,900
Otis	2,000 00	500 00	1,000 00	Gravel	975
Pittsfield	12,000 00	12,000 00	12,000 00	Bituminous macadam	6,793
Richmond	2,500 00	1,000 00	1,500 00	Gravel	1,750
Sandisfield	4,000 00	2,000 00	2,000 00	Gravel	3,220
Savoy	22,500 00	—	7,500 00	Stone and tar mixed in place and 2 bridges	4,113
Sheffield	3,000 00	2,000 00	1,500 00	Gravel	2,179
Stockbridge	20,000 00	20,000 00	10,000 00	Bituminous macadam	9,916
Tyringham	4,000 00	2,000 00	2,000 00	Stone retread	2,850
Washington	4,000 00	2,000 00	2,000 00	Gravel	2,150
West Stockbridge	6,000 00	3,000 00	3,000 00	Stone retread	2,850
Williamstown	2,000 00	4,000 00	—	Gravel	1,650
Windsor	1,000 00	500 00	500 00	Gravel and hardpan	400
Windsor	1,000 00	500 00	500 00	Gravel	525
<i>Bristol County</i>					
Berkley	1,000 00	1,000 00	1,000 00	Gravel	910
Berkley	1,000 00	1,000 00	—	Repairs and oiling	47,300
Dartmouth	2,500 00	15,000 00	2,500 00	Bridge and approaches	—
Freetown	1,000 00	1,000 00	—	Repairs and oiling	68,300
Norton	3,000 00	1,000 00	2,000 00	Gravel	1,200
Rehoboth	5,000 00	5,000 00	5,000 00	Bituminous macadam	3,000
Swansea	6,000 00	6,000 00	6,000 00	Bituminous macadam	4,450
Westport	4,000 00	4,000 00	4,000 00	Bituminous macadam	1,750

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of road	Length con- tracted for (Feet)
<i>Dukes County</i>					
Oak Bluffs	22,500 00	7,500 00	—	Bituminous concrete	6,870
Tisbury	17,500 00	8,750 00	8,750 00	Bituminous concrete	8,300
<i>Essex County</i>					
Boxford	1,000 00	1,000 00	—	Repairs and oiling	20,000
Boxford	1,000 00	1,000 00	—	Repairs and widening	1,800
Methuen	10,000 00	20,000 00	—	Bituminous macadam	5,600
Newbury	600 00	1,200 00	—	Bridge and approaches	—
Rowley	500 00	500 00	—	Repairs and oiling	11,000
<i>Franklin County</i>					
Ashfield	1,000 00	1,000 00	—	Gravel	1,000
Ashfield	2,000 00	1,000 00	1,000 00	Gravel	1,700
Buckland	6,000 00	5,000 00	1,000 00	Gravel	7,200
Charlemont	2,000 00	1,000 00	1,000 00	Stone retread	4,000
Colrain	1,000 00	1,000 00	—	Gravel	600
Colrain	2,000 00	1,000 00	1,000 00	Bituminous macadam	1,100
Conway	3,000 00	2,000 00	1,000 00	Gravel	2,100
Deerfield	4,300 00	3,000 00	1,000 00	Bituminous macadam	2,300
Gill	2,965 00	670 00	—	Repairs and oiling	35,631
Gill	2,000 00	1,000 00	1,000 00	Gravel	1,500
Greenfield	7,000 00	6,000 00	1,000 00	Stone and tar mixed in place	8,500
Greenfield-Montague	5,000 00	—	3,500 00	Bridge repairs	—
Hawley	1,400 00	700 00	700 00	Gravel	700
Hawley	1,200 00	700 00	500 00	Gravel	1,800
Heath	2,000 00	1,000 00	1,000 00	Gravel	1,650
Leverett	2,000 00	1,000 00	1,000 00	Gravel	3,700
Leverett	500 00	500 00	—	Oiling	5,000
Leyden	2,000 00	1,000 00	1,000 00	Gravel	1,500
Monroe	1,400 00	700 00	700 00	Gravel	4,000
New Salem	2,500 00	1,500 00	1,000 00	Repairs and oiling	31,152
New Salem	1,000 00	1,000 00	—	Gravel	1,150
Northfield	2,000 00	1,000 00	1,000 00	Gravel and tar	7,400
Northfield	6,000 00	11,000 00	1,000 00	Bridge repairs	—
Orange	1,550 00	1,400 00	700 00	Gravel	2,570
Orange	600 00	600 00	300 00	Oiling	12,672
Rowe	2,000 00	1,000 00	1,000 00	Gravel	1,350
Shelburne	4,000 00	3,000 00	1,000 00	Bituminous macadam	2,000
Shelburne	1,000 00	1,000 00	—	Repairs and oiling	11,616
Shutesbury	3,000 00	2,000 00	1,000 00	Gravel	6,600
Sunderland	4,000 00	1,000 00	1,000 00	Bituminous macadam	1,740
Warwick	2,000 00	1,000 00	1,000 00	Gravel	1,400
Warwick	1,500 00	1,500 00	—	Gravel	1,000
Wendell	4,000 00	3,000 00	1,000 00	Gravel	1,800
Wendell	1,500 00	1,500 00	—	Repairs and oiling	19,008
<i>Hampden County</i>					
Agawam	14,000 00	14,000 00	14,000 00	Bituminous macadam	8,406
Blandford	11,500 00	2,000 00	11,500 00	Bituminous macadam	3,462
Blandford	2,000 00	500 00	2,000 00	Stone retread	8,400
Brimfield	4,000 00	2,000 00	4,000 00	Gravel and tar	4,900
Brimfield	300 00	200 00	300 00	Repairs and oiling	21,455
Chester	1,500 00	500 00	1,500 00	Stone retread	3,000 00
Chester	3,200 00	800 00	3,200 00	Gravel	1,100
Chester	4,000 00	800 00	4,000 00	Stone retread	5,400
Chester	—	200 00	8,000 00	Stone retread	3,850
Chicopee	30,000 00	17,000 00	13,000 00	Stone and tar mixed in place	21,319
East Longmeadow	4,000 00	2,000 00	4,000 00	Bituminous macadam	4,096
Granville	5,500 00	3,000 00	5,500 00	Bridge—gravel and tar	2,078
Granville	2,000 00	2,000 00	2,000 00	Gravel and tar	1,800
Hampden	2,000 00	1,000 00	2,000 00	Concrete	2,000
Hampden	4,000 00	2,000 00	4,000 00	Bituminous macadam	2,452
Holland	500 00	500 00	500 00	Repairs and oiling	13,746
Holland	3,200 00	800 00	3,200 00	Gravel and tar	2,050
Ludlow	4,900 00	4,900 00	4,900 00	Bituminous macadam	3,900
Ludlow	500 00	500 00	500 00	Repairs and gravel	6,336
Ludlow	2,000 00	2,000 00	2,000 00	Gravel and tar	2,250
Montgomery	3,000 00	1,000 00	3,000 00	Gravel	2,250
Russell	285 00	285 00	285 00	Repairs and oiling	3,625
Southwick	8,000 00	8,000 00	8,000 00	Bituminous macadam	1,400
Tolland	4,000 00	2,000 00	4,000 00	Bridge and approach	—
Wales	2,000 00	1,000 00	2,000 00	Gravel and tar	2,004
Wales	250 00	250 00	250 00	Repairs and oiling	6,350
West Springfield	8,000 00	8,000 00	8,000 00	Bituminous macadam	3,900
Westfield	2,000 00	2,000 00	2,000 00	Gravel	1,920
Westfield	1,000 00	1,000 00	1,000 00	Bituminous macadam	2,650
Westfield	—	8,600 00	17,000 00	Bituminous macadam	6,153
Wilbraham	4,000 00	4,000 00	4,000 00	Bituminous macadam	3,200
Wilbraham	1,000 00	1,000 00	1,000 00	Gravel retread	2,300
Wilbraham	4,000 00	1,000 00	4,000 00	Stone retread	3,000

COUNTIES AND TOWNS

CONTRIBUTIONS

State

Town

County

Type of road

Length contracted
(Feet)*Hampshire County*

Belchertown	16,250 00	3,750 00	5,000 00	Bituminous macadam	5,950
Chesterfield	4,000 00	1,000 00	1,500 00	Stone retread	7,400
Chesterfield	1,000 00	500 00	500 00	Gravel	800
Chesterfield	1,000 00	500 00	500 00	Gravel	671
Cummington	3,000 00	1,500 00	1,500 00	Gravel	1,450
Cummington	1,000 00	500 00	500 00	Gravel	800
Cummington	400 00	200 00	200 00	Repairs	-
Easthampton	9,000 00	9,000 00	6,000 00	Bituminous macadam	5,600
Enfield	1,000 00	500 00	500 00	Repairs and oiling	18,480
Goshen	1,000 00	500 00	500 00	Gravel	550
Goshen	1,000 00	500 00	500 00	Gravel	750
Granby	2,000 00	1,000 00	1,000 00	Bituminous macadam	1,200
Granby	4,000 00	2,000 00	2,000 00	Bituminous macadam	1,396
Greenwich	2,000 00	1,000 00	1,000 00	Repairs and oiling	26,928
Huntington	2,000 00	1,000 00	1,000 00	Gravel	1,200
Middlefield	7,000 00	1,000 00	2,000 00	Stone retread	2,900
Middlefield	600 00	300 00	300 00	Gravel	375
Middlefield	600 00	300 00	300 00	Gravel	525
Middlefield	400 00	200 00	200 00	Gravel	300
Northampton	5,000 00	5,000 00	3,000 00	Bituminous macadam	5,760
Pelham	1,000 00	500 00	500 00	Gravel	1,000
Pelham	6,800 00	1,200 00	4,000 00	Bituminous macadam	3,350
Plainfield	8,000 00	1,000 00	3,000 00	Gravel and tar	2,780
South Hadley	18,000 00	9,000 00	9,000 00	Bituminous macadam	6,255
South Hadley	750 00	375 00	375 00	Sidewalk	600
Southampton	1,000 00	500 00	500 00	Stone retread	2,000
Ware	2,000 00	1,000 00	1,000 00	Repairs and oiling	11,101
Ware	1,000 00	1,000 00	-	Repairs	32,221
Westhampton	1,500 00	750 00	750 00	Gravel	1,300
Westhampton	6,000 00	800 00	800 00	Gravel	12,700
Williamsburg	6,500 00	1,000 00	2,500 00	Gravel and tar	11,635
Worthington	3,000 00	1,500 00	1,500 00	Gravel	1,650

Middlesex County

Acton	1,300 00	1,300 00	1,300 00	Repairs and oiling	91,840
Acton	2,500 00	2,500 00	2,500 00	Gravel	4,190
Acton	2,500 00	2,500 00	2,500 00	Gravel	2,500
Arlington	11,000 00	11,000 00	11,000 00	Bituminous concrete	4,060
Arlington	4,000 00	4,000 00	4,000 00	Reinforced cement concrete	978
Ashby	1,000 00	500 00	1,000 00	Repairs and oiling	17,952
Ashland	2,000 00	2,000 00	2,000 00	Repairs and oiling	22,176
Ashland	2,300 00	2,300 00	2,300 00	Gravel and tar	400
Ashland	700 00	700 00	700 00	Gravel	1,200
Ayer	1,500 00	1,500 00	1,500 00	Gravel	3,000
Ayer	2,500 00	2,500 00	2,500 00	Repairs and oiling	24,050
Bedford	2,300 00	2,300 00	2,300 00	Repairs and oiling	46,464
Belmont	18,000 00	18,000 00	18,000 00	Bituminous macadam	4,764
Billerica	4,500 00	4,500 00	4,500 00	Gravel	1,650
Billerica	2,000 00	2,000 00	2,000 00	Repairs and oiling	63,360
Billerica	2,000 00	2,000 00	2,000 00	Bridge	-
Boxborough	1,000 00	500 00	1,000 00	Gravel	1,400
Boxborough	750 00	750 00	750 00	Oiling	34,584
Boxborough	1,000 00	500 00	1,000 00	Gravel	1,400
Burlington	3,000 00	3,000 00	3,000 00	Gravel	4,500
Burlington	2,500 00	2,500 00	2,500 00	Gravel	4,250
Burlington	1,500 00	2,000 00	1,500 00	Repairs and oiling	52,800
Burlington	1,500 00	1,500 00	1,500 00	Repairs and oiling	64,644
Carlisle	1,500 00	1,500 00	1,500 00	Bituminous macadam	3,956
Chelmsford	3,000 00	3,000 00	3,000 00	Gravel	1,605
Chelmsford	800 00	800 00	800 00	Repairs and oiling	8,976
Chelmsford	1,000 00	1,000 00	1,000 00	Repairs and oiling	78,672
Concord	1,500 00	7,500 00	1,500 00	Bridge	-
Dunstable	2,000 00	1,000 00	2,000 00	Repairs and oiling	15,300
Dunstable	1,750 00	1,750 00	1,750 00	Repairs and oiling	49,104
Framingham	5,000 00	5,000 00	5,000 00	Bridge and approaches	-
Framingham	4,500 00	4,500 00	4,500 00	Bituminous macadam	1,450
Groton	3,500 00	3,500 00	3,500 00	Repairs and oiling	44,880
Groton	3,000 00	3,000 00	3,000 00	Gravel	3,500
Holliston	1,500 00	1,500 00	1,500 00	Repairs and oiling	46,992
Hopkinton	4,000 00	2,000 00	4,000 00	Bituminous macadam	2,200
Hopkinton	2,000 00	2,000 00	2,000 00	Oiling	64,888
Hudson	2,000 00	2,000 00	2,000 00	Bituminous macadam	550
Hudson	1,500 00	1,500 00	1,500 00	Repairs and oiling	22,440
Lexington	3,000 00	3,000 00	3,000 00	Bituminous macadam	2,900
Lincoln	1,200 00	1,200 00	1,200 00	Repairs and oiling	52,800
Littleton	2,000 00	2,000 00	2,000 00	Repairs and oiling	48,040
Littleton	1,000 00	1,000 00	1,000 00	Gravel and tar	2,000
Littleton	1,000 00	1,000 00	1,000 00	Gravel	1,800
Lowell	6,000 00	6,000 00	6,000 00	Bituminous macadam	2,180
Lowell				Gravel	8,050
Malden	20,000 00	40,000 00	20,000 00	Reinforced cement concrete	3,747
Natick	5,000 00	5,000 00	5,000 00	Bituminous macadam	3,100
Newton	35,000 00	75,000 00	30,000 00	Reinforced cement concrete and bituminous concrete	12,460
North Reading	3,000 00	3,000 00	3,000 00	Bituminous macadam	3,200

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of road	Length con- tracted for (Feet)
<i>Middlesex County — Continued</i>					
North Reading	2,000 00	2,000 00	2,000 00	Repairs and oiling	52,272
Pepperell	3,000 00	3,000 00	3,000 00	Repairs and oiling	68,640
Pepperell	4,000 00	4,000 00	4,000 00	Gravel and tar	3,625
Reading	7,000 00	7,000 00	7,000 00	Reinforced cement concrete	1,005
Sherborn	10,000 00	5,000 00	10,000 00	Bituminous macadam	5,000
Sherborn	4,000 00	2,000 00	4,000 00	Gravel	4,450
Sherborn	2,000 00	2,000 00	2,000 00	Repairs and oiling	71,280
Shirley	1,000 00	1,000 00	1,000 00	Repairs and oiling	51,216
Stoneham	4,800 00	4,800 00	4,800 00	Bituminous macadam	2,050
Stow	1,500 00	1,500 00	1,500 00	Repairs and oiling	41,184
Sudbury	3,000 00	3,000 00	3,000 00	Repairs and oiling	79,728
Tewksbury	1,000 00	1,000 00	1,000 00	Repairs and oiling	31,680
Tewksbury	750 00	750 00	750 00	Gravel	3,150
Tewksbury	1,500 00	1,500 00	1,500 00	Gravel	3,500
Townsend	1,500 00	1,500 00	1,500 00	Repairs and oiling	37,488
Townsend	6,000 00	2,000 00	4,000 00	Gravel	6,000
Tyngsborough	2,000 00	1,000 00	2,000 00	Repairs and oiling	58,080
Tyngsborough	2,000 00	2,000 00	2,000 00	Gravel and tar	2,800
Tyngsborough	2,000 00	1,000 00	2,000 00	Gravel	2,800
Watertown	10,000 00	10,000 00	10,000 00	Bituminous macadam	3,200
Wayland	4,000 00	4,000 00	4,000 00	Repairs and oiling	48,576
Wayland	12,000 00	12,000 00	12,000 00	Bituminous macadam	8,000
Westford	6,000 00	6,000 00	6,000 00	Repairs and oiling	107,712
Westford	2,000 00	2,000 00	2,000 00	Gravel	3,600
Westford	2,000 00	2,000 00	2,000 00	Gravel	3,500
Wilmington	2,000 00	2,000 00	2,000 00	Gravel and tar	3,400
Wilmington	750 00	750 00	750 00	Repairs and oiling	23,232
Wilmington	1,500 00	1,500 00	1,500 00	Bridge	—
<i>Norfolk County</i>					
Bellingham	2,650 00	1,325 00	1,325 00	Repairs and oiling	23,700
Franklin	2,000 00	2,000 00	2,000 00	Gravel and tar	2,050
Franklin	4,000 00	4,000 00	4,000 00	Gravel	4,450
Medway	1,000 00	1,000 00	1,000 00	Repairs and oiling	32,270
Millis	1,000 00	1,000 00	1,000 00	Bituminous macadam	4,900
Millis	700 00	700 00	700 00	Gravel	400
Norfolk	1,500 00	1,500 00	1,500 00	Repairs and oiling	45,665
Norfolk	1,250 00	500 00	1,250 00	N.Y.N.H.&H.R.R. Gravel	\$1,250 1,125
Plainville	4,000 00	2,000 00	2,000 00	Gravel and tar	4,624
Walpole	1,250 00	1,600 00	1,250 00	N.Y.N.H.&H.R.R. Gravel	\$1,250 1,000
Weymouth	300 00	300 00	300 00	Drainage	—
<i>Plymouth County</i>					
Bridgewater	4,000 00	2,500 00	2,500 00	Gravel	5,050
Carver	500 00	1,000 00	500 00	Bituminous concrete	530
Halifax	5,000 00	2,500 00	2,500 00	Gravel	7,200
Hanson	10,000 00	5,000 00	5,000 00	Bituminous macadam	3,800
Lakeville	1,000 00	500 00	500 00	Grading and oiling	8,450
Marshfield	5,000 00	7,000 00	5,000 00	Bituminous macadam	4,614
Middleborough	7,500 00	7,500 00	7,500 00	Gravel	17,100
Pembroke	2,500 00	6,000 00	3,000 00	Gravel	6,100
Plympton	4,000 00	2,000 00	2,000 00	Gravel	6,300
Rochester	8,000 00	4,000 00	4,000 00	Gravel	10,350
Rockland	8,000 00	4,000 00	4,000 00	Bituminous macadam	2,340
<i>Worcester County</i>					
Ashburnham	12,000 00	7,500 00	10,500 00	Gravel and tar	10,667
Ashburnham	900 00	750 00	900 00	Repairs and oiling	21,067
Athol	1,000 00	1,000 00	1,000 00	Repairs and oiling	28,353
Berlin	2,500 00	1,000 00	2,500 00	Repairs and oiling	43,085
Berlin	5,500 00	3,500 00	5,500 00	Gravel and tar	3,013
Berlin	500 00	500 00	500 00	Gravel	700
Blackstone	2,000 00	2,000 00	2,000 00	Gravel and tar	2,400
Blackstone	700 00	700 00	700 00	Repairs and oiling	17,320
Blackstone	4,000 00	4,000 00	4,000 00	Gravel and tar	5,950
Bolton	5,000 00	1,000 00	5,000 00	Bituminous macadam	2,300
Bolton	1,000 00	500 00	1,000 00	Repairs and oiling	11,722
Boylston	1,000 00	500 00	1,000 00	Repairs and oiling	46,574
Boylston	2,500 00	500 00	2,500 00	Gravel	3,050
Brookfield	1,400 00	700 00	1,400 00	Repairs and oiling	21,912
Dana	1,800 00	500 00	1,800 00	Gravel and tar	1,700
Dana	2,500 00	1,000 00	2,500 00	Repairs and oiling	61,269
Gardner	5,000 00	10,000 00	5,000 00	Bituminous macadam	2,620
Hardwick	3,000 00	3,000 00	3,000 00	Bituminous macadam	1,494
Hardwick	1,300 00	1,300 00	1,300 00	Repairs and oiling	40,666
Harvard	1,000 00	500 00	1,000 00	Repairs and oiling	18,216
Holden	1,000 00	1,000 00	1,000 00	Repairs and oiling	34,123
Hubbardston	4,000 00	2,000 00	4,000 00	Gravel	3,300
Hubbardston	1,000 00	500 00	1,000 00	Gravel and tar	1,350
Hubbardston	1,000 00	500 00	1,000 00	Repairs and oiling	43,455
Leominster	1,900 00	1,900 00	1,900 00	Gravel and tar	1,972
Lunenburg	13,500 00	2,700 00	10,800 00	Gravel and tar	8,076
Lunenburg	2,600 00	1,000 00	2,000 00	Repairs and oiling	26,977

COUNTIES AND TOWNS	CONTRIBUTIONS			Type of road	Length con- tracted for (Feet)
	State	Town	County		
Worcester County — Continued					
Lunenburg	2,500 00	—	2,500 00	Gravel	1,550
Mendon	2,200 00	1,100 00	2,200 00	Gravel and tar	2,900
Mendon	1,000 00	500 00	1,000 00	Repairs and oiling	21,264
Milford	20,000 00	20,000 00	20,000 00	Cement concrete	4,133
Millville	3,000 00	1,500 00	3,000 00	Gravel and tar	2,800
New Braintree	1,000 00	500 00	1,000 00	Repairs and oiling	38,277
New Braintree	3,000 00	1,500 00	3,000 00	Gravel and tar	8,601
North Brookfield	3,000 00	3,000 00	3,000 00	Gravel and tar	3,418
North Brookfield	700 00	700 00	700 00	Repairs and oiling	10,615
Northbridge	4,000 00	4,000 00	4,000 00	Gravel and tar	3,850
Northbridge	2,000 00	2,000 00	2,000 00	Gravel and tar	3,300
Northbridge	2,500 00	2,500 00	2,500 00	Gravel and tar	790
Oakham	3,000 00	1,500 00	3,000 00	Repairs and oiling	38,461
Oakham	1,100 00	800 00	1,100 00	Gravel and tar	3,600
Paxton	4,000 00	2,000 00	4,000 00	Gravel and tar	2,700
Paxton	1,200 00	600 00	1,200 00	Repairs and oiling	30,384
Petersham	1,500 00	1,500 00	1,500 00	Repairs and oiling	34,024
Phillipston	500 00	500 00	500 00	Repairs and oiling	25,660
Phillipston	4,500 00	1,000 00	4,500 00	Gravel	3,050
Princeton	2,000 00	1,000 00	2,000 00	Gravel and tar	5,050
Princeton				Grading	2,250
Princeton	3,000 00	—	3,000 00	Gravel and tar	1,250
Princeton	2,000 00	1,000 00	2,000 00	Repairs and oiling	70,940
Royalston	2,200 00	1,300 00	2,200 00	Oiling	36,590
Royalston	500 00	500 00	500 00	Gravel	19,113
Rutland	4,000 00	2,000 00	4,000 00	Gravel and tar	3,450
Rutland	2,000 00	1,000 00	2,000 00	Repairs and oiling	30,624
Shrewsbury	300 00	300 00	300 00	Repairs and oiling	3,800
Southborough	300 00	300 00	300 00	Repairs and oiling	21,120
Spencer	500 00	500 00	500 00	Repairs and oiling	26,928
Sterling	4,000 00	2,000 00	4,000 00	Gravel and tar	6,259
Sterling	4,000 00	2,000 00	4,000 00	Gravel	6,150
Sterling	2,000 00	1,000 00	2,000 00	Repairs and oiling	44,252
Sturbridge	2,000 00	1,000 00	2,000 00	Gravel and tar	2,550
Sturbridge	1,400 00	700 00	1,400 00	Gravel and tar	1,100
Sutton	1,200 00	600 00	1,200 00	Repairs and oiling	16,157
Sutton	5,000 00	2,500 00	5,000 00	Gravel and tar	5,000
Templeton	1,400 00	1,400 00	1,400 00	Repairs and oiling	39,772
Upton	4,000 00	2,000 00	4,000 00	Gravel and tar	3,550
Upton	400 00	200 00	400 00	Culvert	—
Warren	3,000 00	2,500 00	3,000 00	Gravel and tar	5,100
West Boylston	1,000 00	800 00	1,000 00	Repairs and oiling	31,152
West Boylston	250 00	250 00	250 00	Repairs and oiling	31,152
West Brookfield	2,000 00	1,000 00	2,000 00	Gravel and tar	2,550
Westborough	800 00	800 00	800 00	Repairs and oiling	46,929
Westminster	2,500 00	1,250 00	2,500 00	Gravel and tar	3,450
Westminster	2,000 00	1,250 00	2,000 00	Repairs and oiling	28,984
Westminster	2,500 00	1,250 00	2,500 00	Grading and drainage	4,805
Westminster	500 00	250 00	500 00	Gravel and tar	250

EXPENDITURES FOR CONSTRUCTION OF TOWN AND COUNTY WAYS

The expenditures during the year in various Counties were:—

Barnstable, \$17,369.74	Hampshire, \$302,614.05
Berkshire, \$259,124.91	Middlesex, \$341,988.90
Bristol, \$31,126.33	Nantucket, \$1,943.35
Dukes, \$34,555.57	Norfolk, \$62,044.90
Essex, \$60,097.93	Plymouth, \$72,287.36
Franklin, \$106,715.41	Worcester, \$252,209.22
Hampden, \$286,042.29	Total, \$1,828,119.96

Details of the foregoing expenditures follow:—

Barnstable County.—Barnstable, \$1,909.91; Bourne \$15,459.83.

Berkshire County.—Adams, \$9,196.07; Alford, \$4,931.73; Becket, \$6,-313.20; Cheshire, \$8,368.30; Clarksburg, \$1,262.64; Egremont, \$4,040.45; Florida, \$5,046.74; Great Barrington, \$32,366.70; Hancock, \$15,956.03; Hinsdale, \$3,907.98; Lanesboro, \$5,050.11; Lee, \$7,618.62; Lenox, \$18,-939.61; Monterey, \$18,055.12; Mount Washington, \$1,893.96; New Marlboro, \$10,683.52; Otis, \$7,432.41; Peru, \$2,523.33; Pittsfield, \$11,247.54; Richmond, \$3,156.60; Sandisfield, \$5,050.52; Savoy, \$22,584.41; Sheffield, \$3,787.92; Stockbridge, \$24,628.95; Tyringham, \$5,050.56; Washington, \$5,050.55; West Stockbridge, \$9,932.14; Williamstown, \$2,524.27; Windsor, \$2,524.93.

Bristol County.—Attleboro, \$5,209.10; Berkley, \$2,260.28; Dartmouth,

\$1,713.14; Freetown, \$1,262.64; Norton, \$3,787.92; Rehoboth, \$6,002.80; Seekonk, \$936.66; Swansea, \$4,903.23; Westport, \$5,050.56.

Dukes County.—Oak Bluffs, \$15,151.69; Tisbury, \$19,403.88.

Essex County.—Boxford, \$2,525.28; Danvers, \$1,131.00; Georgetown, \$6,518.41; Hamilton, \$118.10; Lynnfield, \$1,947.33; Marblehead, \$2,110.24; Methuen, \$6,734.08; Newbury, \$8,492.87; Newburyport, \$3,391.33; Rowley, \$6,589.28; Salisbury, \$2,209.96; Saugus, \$6,659.77; Topsfield, \$7,021.82; Wenham, \$4,631.11; West Newbury, \$17.35.

Franklin County.—Ashfield, \$3,786.85; Buckland, \$7,575.85; Charlemont, \$2,525.28; Colrain, \$3,787.71; Conway, \$3,787.93; Deerfield, \$5,422.87; Gill, \$6,210.88; Greenfield, \$10,013.99; Hawley, \$3,282.87; Heath, \$2,522.39; Leverett, \$3,156.60; Leydon, \$2,525.28; Monroe, \$1,767.69; Montague, \$1,175.50; New Salem, \$4,419.24; Northfield, \$9,894.09; Orange, \$2,714.68; Rowe, \$2,525.28; Shelburne, \$6,313.20; Shutesbury, \$3,787.92; Sunderland, \$8,155.56; Warwick, \$4,419.23; Wendell, \$6,944.52.

Hampden County.—Agawam, \$14,595.22; Blandford, \$16,847.43; Brimfield, \$5,429.35; Chester, \$10,984.76; Chicopee, \$123,568.28; East Longmeadow, \$5,050.56; Granville, \$5,764.57; Hampden, \$7,575.85; Holland, \$4,981.66; Holyoke, \$1,262.64; Ludlow, \$9,337.30; Montgomery, \$3,787.85; Palmer, \$124.28; Russell, \$359.86; Southwick, \$6,121.34; Springfield, \$41,550.39; Tolland, \$4,879.95; Wales, \$2,589.36; Westfield, \$3,787.92; West Springfield, \$8,053.52; Wilbraham, \$9,390.20.

Hampshire County.—Amherst, \$2,050.47; Belchertown, \$95,132.40; Chesterfield, \$11,321.58; Cummington, \$5,333.97; Easthampton, \$11,363.76; Enfield, \$1,260.59; Goshen, \$2,525.28; Granby, \$7,575.85; Greenwich, \$2,525.28; Hadley, \$3,129.67; Huntington, \$2,524.59; Middlefield, \$10,857.73; Northampton, \$6,313.20; Pelham, \$10,027.39; Plainfield, \$23,844.99; Southampton, \$1,262.65; South Hadley, \$26,495.80; Ware, \$61,088.87; Westhampton, \$1,893.96; Williamsburg, \$12,298.85; Worthington, \$3,787.17.

Middlesex County.—Acton, \$7,954.64; Arlington, \$17,190.02; Ashby, \$1,262.64; Ashland, \$7,246.66; Ayer, \$5,050.56; Bedford, \$4,166.63; Belmont, \$17,058.92; Billerica, \$9,749.31; Boxboro, \$3,441.06; Burlington, \$8,772.32; Carlisle, \$1,893.96; Chelmsford, \$6,694.89; Concord, \$2,290.91; Dunstable, \$4,734.26; Framingham, \$12,867.28; Groton, \$8,194.27; Holliston, \$4,345.97; Hopkinton, \$7,575.42; Hudson, \$4,474.87; Lexington, \$2,525.28; Lincoln, \$2,208.98; Littleton, \$5,050.09; Lowell, \$4,660.37; Malden, \$15,362.12; Melrose, \$3,056.06; Natick, \$6,287.22; Newton, \$37,879.22; North Reading, \$6,313.16; Pepperell, \$8,708.71; Reading, \$7,402.35; Sherborn, \$20,507.29; Shirley, \$4,040.93; Stoneham, \$5,888.76; Stow, \$1,893.96; Sudbury, \$3,787.58; Tewksbury, \$4,355.86; Townsend, \$9,621.32; Tyngsboro, \$7,575.85; Wakefield, \$302.17; Watertown, \$10,521.99; Wayland, \$20,966.21; Westford, \$13,110.15; Wilmington, \$4,998.68.

Nantucket County.—Nantucket, \$1,943.35.

Norfolk County.—Avon, \$1,673.99; Bellingham, \$3,345.97; Canton, \$2,799.33; Franklin, \$13,418.83; Holbrook, \$1,438.95; Medway, \$5,618.02; Millis, \$5,364.77; Needham, \$2,467.82; Norfolk, \$2,509.31; Norwood, \$1,312.15; Plainville, \$7,787.05; Randolph, \$3,353.78; Sharon, \$3,420.30; Walpole, \$778.57; Westwood, \$4,238.18; Wrentham, \$2,517.88.

Plymouth County.—Bridgewater, \$5,084.54; Carver, \$631.32; Halifax, \$10,852.05; Hanson, \$12,121.15; Hingham, \$4,575.85; Lakeville, \$1,262.64; Middleboro, \$10,071.55; Pembroke, \$3,156.60; Plympton, \$5,599.51; Rochester, \$7,817.91; Rockland, \$11,114.24.

Worcester County.—Ashburnham, \$20,698.52; Athol, \$1,262.64; Barre, \$1,042.37; Berlin, \$7,454.10; Blackstone, \$8,759.38; Bolton, \$9,202.02; Boylston, \$1,262.64; Brookfield, \$2,749.11; Charlton, \$123.18; Dana, \$4,985.20; Fitchburg, \$15,016.08; Gardner, \$6,313.20; Grafton, \$383.01; Hardwick, \$5,429.35; Holden, \$1,262.36; Hubbardston, \$6,321.69; Leicester, \$2,898.86; Leominster, \$1,309.49; Lunenburg, \$15,667.28; Mendon, \$3,082.52; Milford, \$18,686.49; Millville, \$296.89; New Braintree, \$4,161.-

04; North Brookfield, \$4,921.75; Northboro, \$4,159.92; Northbridge, \$13,-763.70; Oakham, \$5,173.14; Oxford, \$4.21; Paxton, \$4,898.85; Petersham, \$1,893.93; Phillipston, \$8,882.52; Princeton, \$11,436.67; Royalston, \$5,-629.09; Rutland, \$6,796.37; Shrewsbury, \$378.79; Southboro, \$378.73; Spencer, \$614.05; Sterling, \$9,078.11; Sturbridge, \$3,775.12; Sutton, \$10,-633.66; Templeton, \$1,766.20; Upton, \$4,983.43; Warren, \$2,626.99; West Brookfield, \$1,482.45; Westboro, \$3,360.01; Westminster, \$7,204.11.

REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS, IN CERTAIN TOWNS

(Sections 26 to 29 and 31 of chapter 81, General Laws, as amended.)

During the year the Department contracted for work to be done in the towns named in the following table, which also shows the road mileage in the towns and the allotments or contributions by the State and towns:—

Counties and Towns	Miles Of Road	Allotment State	Town
<i>Barnstable County:</i>			
Brewster	40	\$4,000 00	\$4,000 00
Dennis	79	7,900 00	7,900 00
Eastham	41	4,100 00	3,075 00
Mashpee	27	2,700 00	2,025 00
Sandwich	67	6,700 00	6,700 00
Truro	28	2,800 00	3,500 00
Wellfleet	35	3,500 00	4,375 00
<i>Berkshire County:</i>			
Alford	19	1,900 00	760 00
Becket	58	5 800 00	2,320 00
Cheshire	42	4,200 00	4,200 00
Clarksburg	14	1,400 00	2,100 00
Egremont	32	3,200 00	2,400 00
Florida	43	4,300 00	3,225 00
Hancock	30	3,000 00	1,200 00
Hinsdale	35	3,500 00	2,625 00
Lanesborough	42	4,200 00	3,150 00
Monterey	52	5,200 00	2,080 00
Mount Washington	20	2,000 00	500 00
New Ashford	9	900 00	360 00
New Marlborough	85	8,500 00	3,400 00
Otis	48	4,800 00	1,200 00
Peru	37	3,700 00	555 00
Richmond	34	3,400 00	1,700 00
Sandisfield	79	7,900 00	1,185 00
Savoy	56	5,600 00	840 00
Sheffield	77	7,700 00	3,850 00
Tyringham	25	2,500 00	1,000 00
Washington	51	5,100 00	765 00
West Stockbridge	36	3,600 00	2,700 00
Windsor	65	6,500 00	975 00
<i>Bristol County:</i>			
Berkley	42	4,200 00	2,100 00
Freetown	47	4,700 00	3,525 00
Norton	56	5,600 00	5,600 00
Raynham	45	4,500 00	4,500 00
Rehoboth	109	10,900 00	5,450 00
Swansea	55	5,500 00	8,250 00

Counties and Towns	Miles Of Road	Allotment State	Town
<i>Dukes County:</i>			
Chilmark	14	1,400 00	1,400 00
West Tisbury	13	1,300 00	1,950 00
<i>Essex County:</i>			
Boxford	52	5,200 00	2,600 00
Essex	21	2,100 00	3,150 00
Georgetown	34	3,400 00	4,250 00
Groveland	29	2,900 00	3,625 00
Merrimac	31	3,100 00	4,650 00
Middleton	30	3,000 00	4,500 00
Newbury	37	3,700 00	4,625 00
Rowley	31	3,100 00	3,100 00
Topsfield	38	3,800 00	5,700 00
West Newbury	37	3,700 00	2,775 00
<i>Franklin County:</i>			
Ashfield	81	8,100 00	3,240 00
Bernardston	40	4,000 00	3,000 00
Buckland	45	4,500 00	5,625 00
Charlemont	49	4,900 00	2,450 00
Colrain	84	8,400 00	3,360 00
Conway	72	7,200 00	2,880 00
Deerfield	82	8,200 00	10,250 00
Gill	34	3,400 00	2,550 00
Hawley	49	4,900 00	735 00
Heath	53	5,300 00	795 00
Leverett	38	3,800 00	1,520 00
Leydon	39	3,900 00	585 00
Monroe	18	1,800 00	2,250 00
Northfield	66	6,600 00	4,950 00
New Salem	64	6,400 00	960 00
Rowe	41	4,100 00	1,640 00
Shelburne	48	4,800 00	6,000 00
Shutesbury	40	4,000 00	1,000 00
Sunderland	34	3,400 00	2,550 00
Warwick	55	5,500 00	825 00
Wendell	48	4,800 00	2,400 00
Whately	40	4,000 00	3,000 00
<i>Hampden County:</i>			
Blandford	75	7,500 00	1,875 00
Brimfield	59	5,900 00	2,950 00
Chester	66	6,600 00	3,300 00
Granville	73	7,300 00	5,475 00
Hampden	34	3,400 00	1,700 00
Holland	30	3,000 00	450 00
Monson	101	10,100 00	7,575 00
Montgomery	27	2,700 00	675 00
Southwick	50	5,000 00	5,000 00
Tolland	41	4,100 00	615 00
Wales	25	2,500 00	1,000 00
Wilbraham	43	4,300 00	6,450 00
<i>Hampshire County:</i>			
Belchertown	115	11,500 00	4,600 00
Chesterfield	59	5,900 00	1,475 00
Cummington	49	4,900 00	1,225 00
Enfield	37	3,700 00	1,480 00

Counties and Towns	Miles Of Road	Allotment State	Town
<i>Hampshire County—Continued</i>			
Goshen	28	2,800 00	700 00
Granby	48	4,800 00	2,400 00
Greenwich	39	3,900 00	1,560 00
Hadley	58	5,800 00	7,250 00
Hatfield	46	4,600 00	5,750 00
Huntington	40	4,000 00	3,000 00
Middlefield	40	4,000 00	600 00
Pelham	39	3,900 00	1,560 00
Plainfield	49	4,900 00	735 00
Prescott	39	3,900 00	585 00
Southampton	56	5,600 00	2,240 00
Westhampton	50	5,000 00	750 00
Williamsburg	43	4,300 00	3,225 00
Worthington	73	7,300 00	1,095 00
<i>Middlesex County:</i>			
Acton	58	5,800 00	8,700 00
Ashby	56	5,600 00	2,240 00
Ashland	38	3,800 00	5,700 00
Bedford	35	3,500 00	5,250 00
Boxborough	23	2,300 00	920 00
Burlington	34	3,400 00	5,100 00
Carlisle	42	4,200 00	3,150 00
Dracut	61	6,100 00	9,150 00
Dunstable	37	3,700 00	925 00
Groton	70	7,000 00	10,500 00
Holliston	50	5,000 00	7,500 00
Hopkinton	66	6,600 00	6,600 00
Lincoln	40	4,000 00	6,000 00
Littleton	42	4,200 00	5,250 00
North Reading	31	3,100 00	4,650 00
Pepperell	68	6,800 00	6,800 00
Sherborn	43	4,300 00	4,300 00
Shirley	46	4,600 00	4,600 00
Stow	45	4,500 00	3,375 00
Sudbury	64	6,400 00	4,800 00
Tewksbury	56	5,600 00	8,400 00
Townsend	70	7,000 00	5,250 00
Tyngsborough	40	4,000 00	3,000 00
Westford	85	8,500 00	10,625 00
<i>Norfolk County:</i>			
Bellingham	43	4,300 00	6,450 00
Medfield	40	4,000 00	6,000 00
Medway	44	4,400 00	6,600 00
Millis	39	3,900 00	5,850 00
Norfolk	41	4,100 00	4,100 00
Plainville	31	3,100 00	3,875 00
<i>Plymouth County:</i>			
Carver	68	6,800 00	6,800 00
Halifax	33	3,300 00	3,300 00
Hanson	36	3,600 00	5,400 00
Lakeville	41	4,100 00	3,075 00
Norwell	47	4,700 00	4,700 00
Pembroke	47	4,700 00	5,875 00
Plympton	30	3,000 00	1,500 00
Rochester	49	4,900 00	3,675 00

Counties and Towns	Miles	Allotment	
	Of Road	State	Town
<i>Worcester County:</i>			
Ashburnham	75	7,500 00	5,625 00
Barre	110	11,000 00	8,250 00
Berlin	39	3,900 00	2,925 00
Bolton	53	5,300 00	2,650 00
Boylston	41	4,100 00	2,050 00
Brookfield	37	3,700 00	3,700 00
Charlton	115	11,500 00	4,600 00
Dana	43	4,300 00	1,720 00
Douglas	70	7,000 00	5,250 00
Dudley	63	6,300 00	7,875 00
East Brookfield	19	1,900 00	2,375 00
Grafton	110	11,000 00	11,000 00
Hardwick	96	9,600 00	7,200 00
Harvard	56	5,600 00	5,600 00
Holden	77	7,700 00	7,700 00
Hubbardston	75	7,500 00	1,875 00
Lancaster	58	5,800 00	7,250 00
Leicester	66	6,600 00	8,250 00
Lunenburg	67	6,700 00	5,025 00
Mendon	36	3,600 00	3,600 00
New Braintree	49	4,900 00	1,225 00
North Brookfield	69	6,900 00	6,900 00
Northborough	47	4,700 00	4,700 00
Oakham	45	4,500 00	1,125 00
Oxford	66	6,600 00	8,250 00
Paxton	29	2,900 00	2,175 00
Petersham	71	7,100 00	3,550 00
Phillipston	41	4,100 00	1,025 00
Princeton	72	7,200 00	2,880 00
Royalston	67	6,700 00	1,675 00
Rutland	68	6,800 00	3,400 00
Southborough	48	4,800 00	7,200 00
Spencer	100	10,000 00	12,500 00
Sterling	72	7,200 00	5,400 00
Sturbridge	66	6,600 00	3,300 00
Sutton	84	8,400 00	4,200 00
Templeton	62	6,200 00	7,750 00
Upton	60	6,000 00	4,500 00
Warren	71	7,100 00	8,875 00
West Boylston	35	3,500 00	5,250 00
West Brookfield	53	5,300 00	3,975 00
Westborough	57	5,700 00	8,550 00
Westminster	77	7,700 00	3,080 00

EXPENDITURES FOR REPAIR AND IMPROVEMENT OF PUBLIC WAYS

The expenditures during the year in various Counties were:—

Barnstable, \$34,536.29	Hampden, \$68,277.18
Berkshire, \$101,530.10	Hampshire, \$99,029.87
Bristol, \$37,823.51	Middlesex, \$122,825.28
Dukes, \$2,690.18	Norfolk, \$26,016.75
Essex, \$54,927.03	Plymouth, \$38,008.84
Franklin, \$117,068.59	Worcester, \$290,630.59
	Total, \$993,364.21

Details of the foregoing expenditures follow:—

Barnstable County.—Brewster, \$4,405.36; Dennis, \$8,909.10; Eastham, \$4,328.84; Mashpee, \$3,038.93; Sandwich, \$6,613.50; Truro, \$3,078.28; Wellfleet, \$3,905.79; Yarmouth, \$256.49.

Berkshire County.—Alford, \$2,076.97; Becket, \$5,919.74; Cheshire, \$4,434.62; Clarksburg, \$1,470.27; Egremont, \$3,718.04; Florida, \$4,651.01; Hancock, \$2,880.48; Hinsdale, \$3,903.89; Lanesboro, \$4,522.07; Monterey, \$4,961.23; Mount Washington, \$1,784.01; New Ashford, \$1,716.46; New Marlboro, \$7,698.07; Otis, \$5,259.95; Peru, \$4,065.72; Richmond, \$3,696.11; Sandisfield, \$7,825.11; Savoy, \$6,897.38; Sheffield, \$5,008.12; Tyringham, \$3,021.08; Washington, \$4,931.96; West Stockbridge, \$4,674.52; Windsor, \$6,413.29.

Bristol County.—Berkley, \$3,717.53; Freetown, \$5,137.76; Norton, \$6,121.59; Raynham, \$4,919.13; Rehoboth, \$11,915.23; Swansea, \$6,012.27;

Dukes County.—Chilmark, \$1,269.10; West Tisbury, \$1,421.08.

Essex County.—Boxford, \$6,676.37; Essex, \$4,591.19; Georgetown, \$7,433.36; Groveland, \$3,716.68; Merrimac, \$3,498.05; Middleton, \$3,643.81; Newbury, \$7,979.92; Rowley, \$4,310.79; Topsfield, \$4,987.62; West Newbury, \$8,089.24.

Franklin County.—Ashfield, \$9,127.52; Bernardston, \$4,372.53; Buckland, \$5,001.08; Charlemont, \$5,356.31; Colrain, \$8,663.14; Conway, \$6,586.17; Deerfield, \$8,936.42; Gill, \$3,334.08; Hawley, \$5,356.39; Heath, \$5,793.65; Leverett, \$4,150.03; Leydon, \$4,263.25; Monroe, \$1,967.65; New Salem, \$6,750.14; Northfield, \$7,105.41; Rowe, \$4,481.88; Shelburne, \$4,153.93; Shutesbury, \$4,370.05; Sunderland, \$3,552.71; Warwick, \$6,012.27; Wendell, \$4,509.21; Whately, \$3,224.77.

Hampden County.—Blandford, \$6,870.77; Brimfield, \$6,633.89; Chester, \$8,301.63; Granville, \$7,979.93; Hampden, \$3,771.34; Holland, \$3,334.47; Monson, \$11,044.12; Montgomery, \$3,242.30; Southwick, \$5,465.70; Tolland, \$4,434.97; Wales, \$2,825.50; Wilbraham, \$4,372.56.

Hampshire County.—Belchertown, \$12,489.13; Chesterfield, \$6,612.00; Cummington, \$5,356.39; Enfield, \$3,962.46; Goshen, \$3,060.79; Granby, \$5,137.76; Greenwich, \$4,071.95; Hadley, \$6,394.77; Hatfield, \$3,853.32; Huntington, \$4,388.40; Middlefield, \$4,725.99; Pelham, \$4,399.89; Plainfield, \$5,356.39; Prescott, \$4,782.49; Southampton, \$6,121.59; Westhampton, \$5,465.70; Williamsburg, \$4,809.71; Worthington, \$8,041.14.

Middlesex County.—Acton, \$6,340.22; Ashby, \$6,121.59; Ashland, \$4,153.93; Bedford, \$3,825.99; Boxboro, \$2,514.23; Burlington, \$3,716.68; Carlisle, \$4,591.19; Dunstable, \$4,044.62; Groton, \$7,651.98; Holliston, \$5,465.70; Hopkinton, \$5,531.29; Lincoln, \$4,372.56; Littleton, \$4,591.19; North Reading, \$3,388.74; Pepperell, \$7,433.36; Sherborn, \$4,700.50; Shirley, \$5,028.45; Stow, \$4,919.13; Sudbury, \$6,996.10; Tewksbury, \$6,121.59; Townsend, \$7,651.98; Tyngsboro, \$4,372.56; Westford, \$9,291.70.

Norfolk County.—Bellingham, \$4,700.50; Medfield, \$4,372.56; Medway, \$4,809.82; Millis, \$4,263.25; Norfolk, \$4,481.88; Plainville, \$3,388.74.

Plymouth County.—Carver, \$7,310.33; Halifax, \$3,313.11; Hanson, \$3,774.43; Lakeville, \$4,481.70; Norwell, \$5,322.93; Pembroke, \$5,018.22; Plympton, \$3,216.69; Rochester, \$5,377.70; West Bridgewater, \$193.73.

Worcester County.—Ashburnham, \$8,198.15; Barre, \$12,036.39; Berlin, \$4,263.25; Bolton, \$5,772.44; Boylston, \$4,118.71; Brookfield, \$3,631.60; Charlton, \$13,060.62; Dana, \$4,700.50; Douglas, \$7,779.39; East Brookfield, \$2,076.76; Grafton, \$12,024.55; Hardwick, \$10,570.56; Harvard, \$6,121.59; Holden, \$8,355.22; Hubbardston, \$8,213.61; Lancaster, \$6,340.22; Leicester, \$7,003.03; Lunenburg, \$7,071.02; Mendon, \$3,935.27; New Braintree, \$5,312.95; North Brookfield, \$7,606.01; Northborough, \$5,137.76; Oakham, \$5,292.00; Oxford, \$7,301.37; Paxton, \$2,836.62; Petersham, \$7,761.30; Phillipston, \$4,481.88; Princeton, \$7,754.51; Royalston, \$7,324.04; Rutland, \$7,433.36; Southborough, \$4,442.43; Spencer, \$10,868.32; Sterling, \$8,087.37; Sturbridge, \$7,203.49; Sutton, \$8,881.99; Templeton, \$7,097.29; Upton, \$8,762.95; Warren, \$7,165.21; West Boylston, \$3,825.99; West Brookfield, \$5,865.69; Westborough, \$6,498.00; Westminster, \$8,417.18.

CONTRACTS FOR THE CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS IN ANTICIPATION OF APPROPRIATIONS

In Nov. 1932, preparations were made for advertising contracts under the provisions of section 27, chapter 29, General Laws, as amended and revised, for work to be done in various localities, preliminary to the making of contracts involving the expenditure by the Commonwealth of not exceeding \$1,100,000. The making of these contracts as aforesaid was approved by the Governor and Council on Dec. 7, 1932.

HIGHWAY IMPROVEMENTS AUTHORIZED BY SPECIAL ACTS

Contracts were entered into during the year, as follows, for the construction of State highways in the towns of Needham and Wellesley in accordance with the provisions of chapter 420 of the Acts of 1930, as amended by chapter 454 of the Acts of 1931, and in the city of Revere in accordance with the provisions of chapter 445 of the Acts of 1931, as amended by chapter 258 of the Acts of 1932:

Needham-Wellesley

Feb. 2, 1932, contract made with John F. Rooney & Company, of Milford, for constructing a reinforced concrete arch rigid frame bridge in Needham under Highland Avenue and a steel plate girder railroad bridge in Needham over the tracks of the New York, New Haven & Hartford Railroad, and constructing about 19,306 feet of State highway on Greendale Avenue, new location and Reservoir Street in Needham and Wellesley; the surface consisting of sections of bituminous macadam constructed on each side of a loam space, and sections of bituminous concrete. The proposal amounted to \$231,095.35. Work about nine-tenths completed. Expenditure during 1932, \$221,003.12.

Revere

Nov. 15, 1932, contract made with Coleman-Bros., Incorporated, of Boston, for constructing a deck plate girder and reinforced concrete beam bridge on Beach Street over the tracks of the Boston and Maine Railroad, and constructing about 4,800 feet of State highway on Beach Street; the surface except over the railroad tracks consisting of two roadways of bituminous macadam separated by a center section of loam, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$188,807.34. Work just commenced. Expenditure during 1932, \$935.27.

TRAFFIC CONTROL SIGNALS

The following contracts were entered into this year for furnishing and installing traffic control signals:

Somerset.—Jan. 19, 1932, contract made with the Automatic Signal Corporation of Massachusetts, of Wellesley. The proposal amounted to \$2,912.00. Work completed Mar. 24, 1932. Expenditure during 1932, \$2,192.00.

Framingham.—Feb. 9, 1932, contract made with the Eagle Signal Corporation, of Boston. The proposal amounted to \$4,221.00. Work completed May 26, 1932. Expenditure during 1932, \$4,251.00.

North Andover.—May 10, 1932, contract made with the Automatic Signal Corporation of Massachusetts, of Wellesley. The proposal amounted to \$2,179.00. Work completed July 15, 1932. Expenditure during 1932, \$2,179.00.

Canton.—May 17, 1932, contract made with the Automatic Signal Corporation of Massachusetts, of Wellesley. The proposal amounted to \$1,794.00. Work completed July 26, 1932. Expenditure during 1932, \$1,794.00.

Easton.—May 17, 1932, contract made with the Automatic Signal Corporation of Massachusetts, of Wellesley. The proposal amounted to \$1,888.00. Work completed July 7, 1932. Expenditure during 1932, \$1,888.00.

Milford.—May 31, 1932, contract made with the Davis-Chase Electric Co., of Brockton. The proposal amounted to \$715.00. Work completed Aug. 10, 1932. Expenditure during 1932, \$715.00.

Watertown.—July 26, 1932, contract made with The Equipment Company, of Boston. The proposal amounted to \$850.00. Work completed Aug. 19, 1932. Expenditure during 1932, \$850.00.

Canton.—July 26, 1932, contract made with the Eagle Signal Corporation, of Boston. The proposal amounted to \$566.00. Work completed Aug. 31, 1932. Expenditure during 1932, \$566.00.

Weymouth.—July 26, 1932, contract made with the Eagle Signal Corporation, of Boston. The proposal amounted to \$2,799.00. Work completed Oct. 1, 1932. Expenditure during 1932, \$2,799.00.

Andover.—Aug. 9, 1932, contract made with the Automatic Signal Corporation of Massachusetts, of Wellesley. The proposal amounted to \$2,397.00. Work completed Oct. 27, 1932. Expenditure during 1932, \$2,397.00.

Hingham.—Aug. 9, 1932, contract made with Kenworthy & Taylor, Inc., of Everett. The proposal amounted to \$848.00. Work completed Aug. 18, 1932. Expenditure during 1932, \$848.00.

Quincy.—Sept. 13, 1932, contract made with The Niles Company, of Lowell. The proposal amounted to \$1,150.00. Work completed Nov. 19, 1932. Expenditure during 1932, Nothing.

ERECTION OF NEW OFFICE BUILDING

In accordance with the provisions of chapter 122 of the Acts of 1931 the following contract was entered into:

Boston.—December 8, 1931, contract made with the F. V. Warren Co., of Philadelphia, Pa., for the erection of an office building for the Department of Public Works of the Commonwealth of Massachusetts. The proposal amounted to \$1,307,811.00. Work about 75% completed. Expenditure during 1932, \$955,959.05.

D STREET GARAGE

In connection with the construction of a new garage at D Street, South Boston, the following contracts were entered into:

September 27, 1932, contract made with Thibeau & Comeau, of Cambridge, for constructing a garage at D Street, South Boston. The proposal amounted to \$41,571.00. Work practically completed. Expenditure during 1932, \$24,451.10.

Oct. 11, 1932, contract made with the Reliable Automatic Sprinkler Co. of New England, of Boston, for furnishing and installing a wet pipe system of automatic sprinklers at the D Street Garage, South Boston. The proposal amounted to \$3,650.00. Work practically completed. Expenditure during 1932 nothing.

Oct. 11, 1932, contract made with H. M. Haley Electric Company, Inc., of Boston, for furnishing and installing a system of electric wiring for garage at D Street, South Boston. The proposal amounted to \$2,784.00. Work not yet commenced.

Oct. 25, 1932, contract made with the Acme Heating and Ventilating Company, of Boston, for furnishing and installing a heating system for the garage at D Street, South Boston. The proposal amounted to \$8,824.00. Work just commenced. Expenditure during 1932, \$1,880.20.

DISTRIBUTION OF A CERTAIN PROPORTION OF THE GAS TAX, AS PROVIDED UNDER CHAPTER 122, SECTION 4, ACTS OF 1931, AS AMENDED BY CHAPTER 243, ACTS OF 1932

Distribution as follows:—

Abington, \$5,349.07; Acushnet, \$3,048.40; Adams, \$10,985.73; Agawam, \$7,879.82; Amesbury, \$9,777.88; Amherst, \$7,764.78; Andover, \$15,011.91; Arlington, \$50,212.27; Athol, \$10,007.94; Attleborough, \$22,259.05;

Auburn, \$5,349.07; Avon, \$1,955.58; Ayer, \$3,163.43; Barnstable, \$17,772.73; Belmont, \$36,465.72; Beverly, \$38,881.43; Billerica, \$7,592.23; Blackstone, \$2,300.68; Boston, \$1,484,396.52; Bourne, \$7,189.61; Braintree, \$20,821.12; Bridgewater, \$5,406.59; Brockton, \$68,387.61; Brookline, \$128,895.40; Cambridge, \$161,219.91; Canton, \$7,649.75; Chatham, \$4,371.29; Chelmsford, \$5,464.11; Chelsea, \$45,553.40; Chicopee, \$38,076.20; Clinton, \$11,906.00; Cohasset, \$8,109.89; Concord, \$7,994.85; Dalton, \$5,349.07; Danvers, \$10,928.21; Dartmouth, \$9,605.32; Dedham, \$20,188.44; Dighton, \$3,566.05; Dover, \$2,990.88; Duxbury, \$5,464.11; East Bridgewater, \$4,486.32; East Longmeadow, \$3,335.98; Easthampton, \$3,397.47; Easton, \$5,061.49; Edgartown, \$3,681.08; Erving, \$1,898.06; Everett, \$59,645.04; Fairhaven, \$10,410.56; Fall River, \$103,818.03; Falmouth, \$16,162.25; Fitchburg, \$47,508.97; Foxborough, \$5,119.01; Framingham, \$28,931.01; Franklin, \$7,879.82; Gardner, \$20,245.95; Gay Head, \$115.03; Gloucester, \$32,497.06; Gosnold, \$977.79; Great Barrington, \$7,994.85; Greenfield, \$22,431.60; Hamilton, \$4,371.29; Hanover, \$3,278.46; Harwich, \$4,486.32; Haverhill, \$50,384.82; Hingham, \$11,963.52; Holbrook, \$3,105.91; Holyoke, \$86,102.82; Hopedale, \$4,371.29; Hudson, \$6,441.89; Hull, \$13,056.34; Ipswich, \$6,154.31; Kingston, \$3,623.57; Lawrence, \$95,190.49; Lee, \$4,371.29; Lenox, \$5,003.97; Leominster, \$20,993.67; Lexington, \$16,679.91; Longmeadow, \$9,317.74; Lowell, \$98,468.96; Ludlow, \$7,304.65; Lynn, \$118,599.88; Lynnfield, \$2,760.81; Malden, \$60,737.86; Manchester, \$9,490.29; Mansfield, \$6,499.41; Marblehead, \$15,702.12; Marion, \$3,911.15; Marlborough, \$13,919.09; Marshfield, \$5,579.14; Mattapoisett, \$2,990.88; Maynard, \$5,866.73; Medford, \$67,179.76; Melrose, \$29,966.31; Methuen, \$17,370.11; Middleborough, \$7,764.78; Milford, \$13,286.41; Millbury, \$5,521.62; Millville, \$1,265.37; Milton, \$28,700.94; Montague, \$10,065.46; Nahant, \$4,486.32; Nantucket, \$9,432.77; Natick, \$16,277.29; Needham, \$18,577.96; New Bedford, \$126,479.69; Newburyport, \$12,078.55; Newton, \$124,811.70; North Adams, \$20,360.99; North Andover, \$7,477.20; North Attleboro, \$9,145.19; Northampton, \$23,236.83; Northbridge, \$8,685.05; Norwood, \$22,316.56; Oak Bluffs, \$3,911.15; Orange, \$4,888.94; Orleans, \$3,048.40; Palmer, \$9,030.16; Peabody, \$21,913.94; Pittsfield, \$53,318.18; Plymouth, \$21,683.88; Provincetown, \$3,738.60; Quincy, \$103,703.00; Randolph, \$5,061.49; Reading, \$12,826.27; Revere, \$33,589.88; Rockland, \$7,189.61; Rockport, \$4,716.39; Russell, \$3,623.57; Salem, \$48,486.76; Salisbury, \$2,530.74; Saugus, \$12,538.69; Scituate, \$9,950.43; Seekonk, \$4,083.70; Sharon, \$5,176.52; Shrewsbury, \$7,477.20; Somerset, \$10,122.98; Somerville, \$104,450.72; South Hadley, \$6,729.48; Southbridge, \$10,928.21; Springfield, \$240,190.63; Stockbridge, \$4,256.25; Stoneham, \$12,481.17; Stoughton, \$7,937.33; Swampscott, \$20,245.95; Taunton, \$33,014.71; Tisbury, \$4,601.35; Uxbridge, \$6,441.89; Wakefield, \$18,750.51; Walpole, \$13,516.47; Waltham, \$47,508.97; Ware, \$5,809.21; Wareham, \$10,122.98; Watertown, \$44,920.71; Wayland, \$4,486.32; Webster, \$9,835.39; Wellesley, \$27,953.22; Wenham, \$2,875.85; West Bridgewater, \$4,875.00; West Springfield, \$23,409.38; Westfield, \$17,657.69; Weston, \$7,189.61; Westport, \$4,831.42; Westwood, \$3,911.15; Weymouth, \$37,558.54; Whitman, \$7,649.75; Williamstown, \$5,809.21; Wilmington, \$3,566.05; Winchendon, \$5,234.04; Winchester, \$24,962.34; Winthrop, \$20,706.09; Woburn, \$19,728.30; Worcester, \$276,368.77; Wrentham, \$5,375.00; Yarmouth, \$6,375.00. Total, \$5,500,000.00.

ADDITIONAL AMOUNTS PAID FROM GAS TAX IN ACCORDANCE WITH
PROVISIONS OF CHAPTER 122, SECTION 4, ACTS OF 1931, AS
AMENDED BY CHAPTER 243, ACTS OF 1932

Distribution to towns eligible for aid under the provisions of section 26, Chapter 81, Revised Laws, as amended, as follows:—

Acton, \$2,900.00; Alford, \$950.00; Ashburnham, \$3,750.00; Ashby, \$2,800.00; Ashfield, \$4,050.00; Ashland, \$1,900.00; Barre, \$5,500.00; Becket, \$2,900.00; Bedford, \$1,750.00; Belchertown, \$5,750.00; Bellingham, \$2,-

150.00; Berkley, \$2,100.00; Berlin, \$1,950.00; Bernardston, \$2,000.00; Blandford, \$3,750.00; Bolton, \$2,650.00; Boxboro, \$1,150.00; Boxford, \$2,600.00; Boylston, \$2,050.00; Brewster, \$2,000.00; Brimfield, \$2,950.00; Brookfield, \$1,850.00; Buckland, \$2,250.00; Burlington, \$1,700.00; Carlisle, \$2,100.00; Carver, \$3,400.00; Charlemont, \$2,450.00; Charlton, \$5,750.00; Cheshire, \$2,100.00; Chester, \$3,300.00; Chesterfield, \$2,950.00; Chilmark, \$700.00; Clarksburg, \$700.00; Colrain, \$4,200.00; Conway, \$3,600.00; Cummington, \$2,450.00; Dana, \$2,150.00; Deerfield, \$4,100.00; Dennis, \$3,950.00; Douglas, \$3,500.00; Dracut, \$3,050.00; Dudley, \$3,150.00; Dunstable, \$1,850.00; East Brookfield, \$950.00; Eastham, \$2,050.00; Egremont, \$1,600.00; Enfield, \$1,850.00; Essex, \$1,050.00; Florida, \$2,150.00; Freetown, \$2,350.00; Georgetown, \$1,700.00; Gill, \$1,700.00; Goshen, \$1,400.00; Grafton, \$5,500.00; Granby, \$2,400.00; Granville, \$3,650.00; Greenwich, \$1,950.00; Groton, \$3,500.00; Groveland, \$1,450.00; Hadley, \$2,900.00; Halifax, \$1,650.00; Hampden, \$1,700.00; Hancock, \$1,500.00; Hanson, \$1,800.00; Hardwick, \$4,800.00; Harvard, \$2,800.00; Hatfield, \$2,300.00; Hawley, \$2,450.00; Heath, \$2,650.00; Hinsdale, \$1,750.00; Holden, \$3,850.00; Holland, \$1,500.00; Holliston, \$2,500.00; Hopkinton, \$3,300.00; Hubbardston, \$3,750.00; Huntington, \$2,000.00; Lakeville, \$2,050.00; Lancaster, \$2,900.00; Lanesborough, \$2,100.00; Leicester, \$3,300.00; Leverett, \$1,900.00; Leyden, \$1,950.00; Lincoln, \$2,000.00; Littleton, \$2,100.00; Lunenburg, \$3,350.00; Mashpee, \$1,350.00; Medfield, \$2,000.00; Medway, \$2,200.00; Mendon, \$1,800.00; Merrimac, \$1,550.00; Middlefield, \$2,000.00; Middleton, \$1,500.00; Millis, \$1,950.00; Monroe, \$900.00; Monson, \$5,050.00; Monterey, \$2,600.00; Montgomery, \$1,350.00; Mount Washington, \$1,000.00; New Ashford, \$450.00; New Braintree, \$2,450.00; New Marlboro, \$4,250.00; New Salem, \$3,200.00; Newbury, \$1,850.00; Norfolk, \$2,050.00; North Brookfield, \$3,450.00; North Reading, \$1,550.00; Northboro, \$2,350.00; Northfield, \$3,300.00; Norton, \$2,800.00; Norwell, \$2,350.00; Oakham, \$2,250.00; Otis, \$2,400.00; Oxford, \$3,300.00; Paxton, \$1,450.00; Pelham, \$1,950.00; Pembroke, \$2,350.00; Pepperell, \$3,400.00; Peru, \$1,850.00; Petersham, \$3,550.00; Phillipston, \$2,050.00; Plainfield, \$2,450.00; Plainville, \$1,550.00; Plympton, \$1,500.00; Prescott, \$1,950.00; Princeton, \$3,600.00; Raynham, \$2,250.00; Rehoboth, \$5,450.00; Richmond, \$1,700.00; Rochester, \$2,450.00; Rowe, \$2,050.00; Rowley, \$1,550.00; Royalston, \$3,350.00; Rutland, \$3,400.00; Sandisfield, \$3,950.00; Sandwich, \$3,350.00; Savoy, \$2,800.00; Sheffield, \$3,850.00; Shelburne, \$2,400.00; Sherborn, \$2,150.00; Shirley, \$2,300.00; Shutesbury, \$2,000.00; Southampton, \$2,800.00; Southboro, \$2,400.00; Southwick, \$2,500.00; Spencer, \$5,000.00; Sterling, \$3,600.00; Stow, \$2,250.00; Sturbridge, \$3,300.00; Sudbury, \$3,200.00; Sunderland, \$1,700.00; Sutton, \$4,200.00; Swansea, \$2,750.00; Templeton, \$3,100.00; Tewksbury, \$2,800.00; Tolland, \$2,050.00; Topsfield, \$1,900.00; Townsend, \$3,500.00; Truro, \$1,400.00; Tyngsboro, \$2,000.00; Tyngham, \$1,250.00; Upton, \$3,000.00; Wales, \$1,250.00; Warren, \$3,550.00; Warwick, \$2,750.00; Washington, \$2,550.00; Wellfleet, \$1,750.00; Wendell, \$2,400.00; West Boylston, \$1,750.00; West Brookfield, \$2,650.00; West Newbury, \$1,850.00; West Stockbridge, \$1,800.00; West Tisbury, \$650.00; Westboro, \$2,850.00; Westford, \$4,250.00; Westhampton, \$2,500.00; Westminster, \$3,850.00; Whately, \$2,000.00; Wilbraham, \$2,150.00; Williamsburg, \$2,150.00; Windsor, \$3,250.00; Worthington, \$3,650.00. Total, \$459,150.00.

REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW

(Sections 29-33, chapter 93, General Laws, as amended)

In accordance with the provisions of sections 29 to 33 inclusive, Chapter 93, General Laws, as amended by chapters 85, 237, 334 and 490, Acts of 1924, providing for the control of billboards and other advertising devices on public ways or on private property within the public view of any highway, public park or reservation, the Department adopted on Jan. 24,

1924, certain new rules and regulations, superseding all former issues; and these have continued in force during the present year.

Applications, Licenses and Permits.—Licenses were granted to 26 individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 365 applications received for permits for the erection of advertising signs, 227 permits have been granted; and 25 permits were granted on applications filed previous to 1932. Sixty-one applications for the erection of new signs were not approved because the locations were in violation of the rules and regulations adopted Jan. 24, 1924; and 16 applications for permits were cancelled.

Of 3,072 renewal applications sent to those whose permits were to expire June 30, 1932—2,645 were returned to the Department requesting renewal; and 300 requested that permits be cancelled. The number of renewal applications approved, to be in force, until June 30, 1933, was 2809. The total number of permits in force Nov. 30, 1932 was 2,968.

Receipts and Expenditures.—The total receipts for the year ending Nov. 30, 1932, were \$13,598.87 and the expenditures were \$15,049.38.

The Removal of Signs.—The "Sign Patrol" consisting of small trucks completely equipped for the work, have removed 100,000 signs during the year in addition to 3000 removed by other agents of the Department, under authority of section 30-A, chapter 93, General Laws.

Injunction.—On June 19, 1925, a temporary injunction was granted the General Outdoor Advertising Company, Inc., and others, as complainants enjoining and restraining the Commissioners, constituting the Department of Public Works, for the Commonwealth, until the further order of the Court, from proceeding in any way against them for any alleged failure to comply with the Rules and Regulations for the control and restriction of the billboards, signs and other devices, promulgated under date of Jan. 24, 1924. This injunction is still in force and will be until the case is settled in Court.

Hearings.—Hearings were given to officials of Winchester, Framingham and Fall River; to one licensed advertiser and to one property owner.

CONTRACT PRICES DEC. 1, 1931, TO NOV. 30, 1932

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (Cu. Yd.)	Asphalt (Gals.)	Concrete Surf. (Cu. Yd.)
		Earth (Cu. Yd.)	Borrow (Cu. Yd.)	Ledge (Cu. Yd.)	Trench (Cu. Yd.)			
Alford.	G. Ferullo, Inc..	\$0 40	\$0 30	\$4 00	-	-	-	-
Amesbury & Salisbury.	G. Rotundi & Son	0 15	-	1 50	\$0 60	\$9 00	\$0 065	-
Andover.	P. J. Holland	0 20	-	3 00	0 50	14 00	0 08	\$6 00
Arlington.	J. P. McCabe	30	-	2 00	-	-	0 08	5 50
Arlington.	A. G. Tomasello	30	-	3 00	-	-	-	5 50
Ashburnham.	Rome Const. Co.	0 20	0 20	2 00	0 75	1 00	10	6 00
Auburn & Oxford.	Frank & Frank Const. Co.	0 50	-	0 50	0 90	15 00	0 075	-
*Barnstable & Yarmouth.	M. F. Roach & Sons, Inc.	0 13	0 13	0 13	0 55	10 00	0 095	-
Belchertown & Granby.	Lane Const. Co.	0 20	0 20	1 50	0 50	12 00	0 08	-
*Belchertown.	Rome Const. Co.	0 20	0 20	1 00	0 70	10 00	0 07	-
Beverly.	Welch & Moynihan	0 18	-	0 18	0 50	12 00	0 07	-
Billerica & Chelmsford.	Central Const. Co.	0 20	-	3 00	0 50	12 00	0 07	-
Blackstone, Millville & Uxbridge.	John F. Kennedy & Co.	0 20	-	5 00	0 60	14 00	0 07	-
Bourne & Falmouth.	Thos. J. McCue	0 18	0 20	0 50	0 60	8 00	0 06	-
Charlton.	Perini & Ampollini	0 50	-	0 50	0 50	14 00	0 08	-
*Cohasset & Hingham.	V. Barletta Co..	0 70	0 25	0 70	1 00	10 00	0 06	-
Dartmouth.	Chas. I. Hosmer	0 20	0 23	1 00	-	-	-	-
Dighton & Taunton.	Jas. H. Kerr	0 20	0 20	2 00	0 50	10 00	0 06	-
Dedham, Norwood, Westwood.	Arute Bros.	0 15†	-	2 00	0 40	10 00	0 06	5 00
Edgartown & Oak Bluffs.	O. W. Miller	0 50	0 50	1 00	-	-	-	-
Egremont.	J. M. Kelley Co.	0 50	0 20	2 00	0 75	-	0 08	-
Fall River & Somerset.	H. C. Hanson	-	-	-	-	-	-	-
Framingham.	E. Iacozzi.	-	-	5 00	-	-	-	-
Granville & Tolland.	Albany Bridge Works	-	-	1 00	-	-	-	-
Hancock.	D. J. Walsh	0 25	0 50	1 00	0 75	12 00	0 09	-
*Hancock & Pittsfield.	Lane Const. Co.	0 35	-	0 35	1 00	12 00	0 075	5 75
Hanson.	Arute Bros.	0 25	-	3 00	0 50	14 00	0 07	-
Hingham & Norwell.	Arute Bros.	0 25	-	1 00	0 50	15 00	0 20	5 40
Hingham.	Nat. Gunite Contr. Co.	-	-	-	-	-	-	-
*Ipswich.	Greenough Con. Co.	0 12	0 05	1 50	0 80	10 00	0 06	-
Lee.	Lee Cons. Co., Inc.	-	-	1 50	-	-	-	-
Lee & Stockbridge.	Crane Con. Co..	0 17	-	2 00	0 60	10 00	0 07	-
Lenox.	Edgewood Conc. Co.	0 25	-	0 25	0 90	-	0 085	-
Lenox & Pittsfield.	N. H. Road Const. Co., Inc.	0 50	-	0 50	0 90	12 00	0 085	4 90
Leominster & Lunenburg.	G. Bonazzoli & Sons	0 30	0 25	0 30	0 50	11 50	0 095	-
Littleton.	Greenough Con. Co.	0 20	0 20	-	0 80	15 00	0 07	-
Marshfield.	Ellsworth H. Lewis	0 15	0 15	2 00	0 50	10 00	0 07	-
Mendon.	Jos. DeVries & Son	0 20	0 20	3 00	1 00	15 00	-	-
Middleboro, Rochester & Wareham.	Eastern Contracting Co.	0 18	-	1 00	0 40	12 00	0 065	-
Middleboro.	Powers Bros.	0 15	-	0 15	0 50	9 00	0 095	-
Millford.	Edw. F. Jones	0 10	-	1 00	0 50	14 00	0 07	6 00
Needham & Wellesley.	John F. Rooney & Co.	0 25	0 25	0 25	1 00	13 50	0 07	-
Newton.	Sherry Con. Co., Inc.	0 05	-	1 00	0 40	-	0 06	6 00
Newton & Wellesley.	Coleman Bros.	0 22	0 22	1 20	0 50	13 00	0 06	4 85
Norborough & Shrewsbury.	Mario Pandolf Co., Inc.	0 25	-	1 50	0 65	15 00	0 07	6 00
*Oakham & Rutland.	Greenough Cons. Co..	0 17	0 07	1 50	0 60	15 00	0 07	-
Pelham.	Warner & Goodwin	0 20	-	2 00	1 00	12 00	0 085	-
Pittsfield.	Lane Const. Co., Inc.	0 30	0 10	0 30	1 25	12 00	0 075	5 50
Pittsfield.	C. B. Lindholm.	0 20	0 20	1 00	0 80	15 00	0 085	-
Plainville.	Arute Bros., Inc.	0 20	0 25	3 00	0 50	12 00	-	-
Reading.	P. J. Holland	0 05	-	5 00	-	-	-	5 30
Rehoboth.	Sherry Con. Co., Inc.	0 25	0 25	2 50	0 70	16 00	0 065	-
Revere (culv.)	J. A. Cavanagh.	-	-	1 00	0 90	-	-	-
Revere (cut-off).	Coleman Bros.	0 22	0 15	2 50	0 50	10 00	0 06	5 00
Rochester.	M. F. Roach & Sons	0 22	0 22	0 22	0 50	15 00	0 10	-
Salisbury.	J. E. Watkins Co.	0 20	0 20	-	0 50	-	0 065	-
Savoy.	Rome Con. Co., Inc.	0 60	0 25	0 60	1 00	12 00	-	-
Sherborn.	M. F. Roach & Sons	0 20	0 22	1 50	0 60	13 00	0 06	-
Stockbridge.	J. De Michiel & Sons.	0 25	-	1 00	0 45	13 00	0 09	-

*Federal Aid Emergency Construction Project.

†Price includes extra requirements for which see special provisions.

CONTRACT PRICES DEC. 1, 1931, TO NOV. 30, 1932

Broken Stone (Cu. Yd.)	Cable Guard Rail (Lin. Ft.)	PIPE CULVERTS (lineal feet)								Stock Fence (Lin. Ft.)	Stone Filling (Cu. Yd.)	Catch Basins (Each)	Reinf. Conc. Ma- sonry (Cu. Yd.)	Gravel Borrow (Cu. Yd.)
		CLAY			REINF. CONCRETE									
		10 in.	12 in.	15 in.	12 in.	15 in.	18 in.	24 in.						
-	-	-	-	-	-	-	-	-	-	-	-	\$14 85	\$0 50	
\$1 25	\$0 42	\$0 30	\$0 35	\$0 55	\$0 63	\$0 85	\$1 25	\$2 00	\$0 12	-	30 00	15 00	0 22	
1 60	0 45	0 35	0 40	-	0 70	1 00	1 50	2 30	0 30	-	35 00	25 00	0 42	
1 40	-	-	-	-	-	-	-	-	-	-	-	-	0 40	
-	0 40	-	-	-	-	-	-	-	-	-	-	-	0 50	
2 25	0 45	-	0 50	-	0 85	-	-	-	0 15	1 40	40 00	12 00	0 30	
-	-	-	-	-	-	-	-	-	-	-	-	15 00	0 40	
3 50	0 38	-	0 50	-	0 70	-	1 25	-	0 11	-	30 00	-	-	
1 70	0 40	0 35	0 40	0 70	-	-	-	-	0 15	-	40 00	13 00	0 20	
1 40	0 38	-	-	-	0 70	-	-	-	0 10	-	35 00	12 00	0 20	
1 10	0 45	0 28	0 35	-	0 65	-	1 25	-	-	-	32 00	-	0 30	
1 60	0 40	0 33	0 40	0 65	0 65	0 90	1 20	-	0 13	-	35 00	14 00	0 20	
1 90	0 40	-	0 37	-	-	-	-	-	-	-	-	20 00	0 22	
2 00	0 35	-	-	-	-	-	-	-	0 20	-	30 00	10 00	0 20	
2 50	0 42	-	0 45	-	0 75	-	-	-	0 15	-	40 00	14 00	0 27	
1 30	0 45	-	0 35	-	0 45	0 90	1 30	2 00	0 18	-	35 00	12 00	0 25	
-	0 45	-	-	-	-	-	-	-	-	-	-	15 00	0 30	
1 50	0 45	-	-	-	-	-	-	-	0 15	-	30 00	16 00	0 30	
1 40	0 40	0 30	0 35	0 60	0 60	0 90	1 20	2 00	0 13	-	30 00	10 00	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1 75	0 45	-	-	-	0 50	-	-	-	-	1 00	-	14 00	0 25	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	14 00	0 50	
2 40	0 40	-	-	-	-	-	-	-	0 13	-	-	13 00	0 40	
2 25	0 40	-	0 35	-	0 75	-	1 35	2 00	0 15	-	45 00	13 00	0 35	
2 00	0 45	0 35	0 45	-	0 45	-	-	-	-	-	40 00	25 00	0 25	
-	0 45	-	0 40	0 75	0 65	0 90	1 35	2 50	0 15	-	40 00	15 00	0 30	
1 00	0 37	0 30	0 35	0 55	0 70	-	-	2 00	0 14	-	30 00	10 00	0 30	
1 30	0 40	-	0 40	-	1 00	-	1 50	3 00	-	-	30 00	12 50	0 40	
3 00	0 40	-	0 70	-	-	-	-	-	-	-	40 00	12 00	0 20	
-	-	-	-	-	-	-	-	-	0 15	-	40 00	-	0 50	
3 00	0 41	-	0 40	-	-	-	-	-	0 15	1 25	35 00	11 50	0 25	
1 70	0 40	-	0 35	-	0 80	-	-	-	0 15	-	40 00	15 00	0 25	
1 65	0 30	-	-	-	-	-	-	-	-	-	30 00	10 00	0 15	
-	-	-	-	-	-	-	-	-	0 15	1 00	-	18 00	0 20	
2 30	0 40	-	0 40	-	0 70	-	-	-	0 15	-	33 00	16 00	0 30	
-	0 45	-	-	-	-	-	-	-	0 16	-	30 00	9 00	0 20	
2 00	-	-	0 40	0 60	-	-	-	-	-	-	34 00	-	0 30	
1 55	0 50	0 35	0 40	0 70	0 65	1 25	1 40	2 40	0 18	-	40 00	13 50	0 25	
1 35	-	-	0 60	0 60	0 60	-	-	2 00	-	-	40 00	-	0 20	
1 20	-	0 30	0 38	0 62	0 65	-	1 30	-	0 20	-	35 00	10 00	0 22	
2 25	0 50	-	0 45	0 70	0 80	-	1 45	2 75	0 18	-	40 00	17 00	0 38	
1 35	0 37	-	0 40	-	0 70	-	0 90	-	0 13	-	30 00	16 80	0 30	
1 60	-	-	-	-	-	-	-	-	0 15	-	40 00	15 00	0 30	
2 40	0 40	-	0 40	0 70	0 85	-	1 50	-	0 15	-	40 00	14 00	0 45	
1 90	0 40	-	0 50	-	-	-	-	2 00	-	-	40 00	20 00	0 35	
-	0 45	-	0 30	-	-	-	-	-	0 15	1 00	40 00	-	0 25	
-	-	-	-	-	-	-	-	-	-	-	-	-	0 30	
2 10	0 45	0 30	-	-	-	-	-	-	0 16	-	40 00	20 00	0 35	
-	-	-	-	-	4 00	-	4 00	-	-	-	-	8 00	1 00	
0 80	-	0 30	0 35	0 60	0 60	0 80	1 18	2 00	0 10	-	25 00	12 00	0 20	
-	0 45	0 35	0 45	-	-	-	-	-	0 16	-	35 00	15 00	0 22	
1 65	-	0 35	-	-	-	-	-	-	-	-	35 00	-	0 35	
2 00	0 40	-	-	-	-	-	-	-	-	-	-	12 50	0 35	
1 75	0 38	-	-	-	-	-	-	-	0 12	1 40	33 00	14 00	0 30	
1 82	0 39	-	-	-	-	-	-	-	0 14	-	40 00	14 00	0 38	

CONTRACT PRICES DEC. 1, 1931 TO NOV. 30, 1932 — *Continued*

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (Cu. Yd.)	Asphalt (Gals.)	Concrete Surf. (Cu. Yd.)
		Earth (Cu. Yd.)	Borrow (Cu. Yd.)	Ledge (Cu. Yd.)	Trench (Cu. Yd.)			
Stoneham . .	M. McDonough Co.	0 10	-	1 50	0 50	40 00	0 065	-
Swansea . .	E. F. Jones	0 20	0 25	1 50	0 50	15 00	0 065	-
Tewksbury . .	R. A. Richard & Co.	0 20	0 20	1 00	-	-	0 085	-
Waltham . .	Greenough Con. Co.	0 20	-	1 50	1 00	15 00	0 07	-
*Wellesley (W.) . .	C. Bianchi Co., Inc.	0 18	0 18	1 00	0 60	15 00	0 07	5 50
*Wellesley (C.) . .	Simpson Bros.	0 15	-	1 40	0 70	15 00	0 06 $\frac{1}{2}$	5 00
*Wellesley (E.) . .	State Con. Co.	0 12	0 17	1 00	0 50	13 00	0 06 $\frac{1}{2}$	5 30
W. Newbury . .	P. J. Holland	0 15	0 01	1 50	0 45	10 00	0 07	-
W. Newbury . .	M. McDonough Co.	0 12	-	2 00	0 40	9 00	0 065	-
Westfield . .	Boston Bridge Wks.	-	-	1 90	-	-	-	-
Westminster . .	Perini & Ampollini	0 15	0 15	1 50	0 50	10 00	-	-
Westfield & W. Springfield . .	Fred T. Ley & Co.	0 20	0 20	2 00	0 75	15 00	0 08	-
Whitman . .	Eastern Contr. Co.	0 22	-	1 50	0 60	12 00	0 065	-
Worcester & W. Boylston . .	Charles E. Horne	0 18	-	1 50	0 80	14 00	0 075	-
Worthington . .	Lane Con. Corp.	0 20	-	3 00	0 75	15 00	0 07	-

CONTRACT PRICES DEC. 1, 1931 TO NOV. 30, 1932 — *Continued*

Broken Stone (Cu. Yd.)	Cable Guard Rail (Lin. Ft.)	PIPE CULVERTS (lineal feet)								Stock Fence (Lin. Ft.)	Stone Filling (Cu. Yd.)	Catch Basins (Each)	Reinf. Conc. Ma- sonry (Cu. Yd.)	Gravel Borrow (Cu. Yd.)
		CLAY			REINF. CONCRETE									
		10 in.	12 in.	15 in.	12 in.	15 in.	18 in.	24 in.						
1 40	-	0 40	0 45	0 65	0 90	1 20	-	-	-	-	35 00	-	0 20	
1 60	0 52	0 36	-	-	-	-	-	-	-	-	35 00	-	0 25	
1 75	0 45	-	-	-	-	-	-	-	0 20	-	-	14 50	0 25	
1 30	0 45	0 40	0 45	-	0 80	1 00	1 50	-	0 16	-	35 00	30 00	0 40	
1 40	-	0 30	0 35	0 55	-	-	-	-	-	-	30 00	10 00	0 23	
1 25	-	0 30	0 35	0 55	-	-	-	-	-	-	30 00	10 00	0 25	
1 35	-	0 30	0 35	0 55	-	-	-	-	-	-	31 00	11 40	0 23	
1 25	0 35	0 30	0 35	0 55	0 50	-	-	-	0 30	-	30 00	20 00	0 25	
1 25	0 45	0 28	0 33	0 53	0 65	1 00	-	-	0 20	-	25 00	40 00	0 20	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	15 00	0 20	
1 55	0 45	0 35	0 40	0 65	0 75	1 00	-	-	0 15	-	40 00	12 70	0 40	
1 70	0 40	-	0 40	0 50	0 70	-	1 50	-	-	-	33 00	-	0 25	
1 70	0 35	-	0 40	-	0 80	1 25	-	2 50	0 15	-	40 00	20 00	0 25	
2 10	0 45	0 35	0 40	-	0 75	-	1 50	2 25	0 15	-	40 00	18 00	0 30	

REGISTRY OF MOTOR VEHICLES

The statistics for the year 1932 show decreases in the various classes of applications handled, running from approximately 3% in commercial vehicles to 9% in passenger vehicles, and nearly 30% in the examinations of new operators; but the net decrease in applications of all kinds is approximately only 5%. This slight net reduction enables the Registry to operate with a smaller staff of temporary clerks during the vacation and emergency periods. However, that does not materially affect the amount of work done, because the insurance cancellations have increased nearly 30%, and the public continues to make extensive use of the files of the Registry.

There was a noticeable decrease also in the number of court abstracts received, which affected the revenue received from fines,—the decrease doubtless being due to the reduction in registered motor vehicles and in the number of licensed operators on the highways.

The regular activities of the Registrar of Motor Vehicles in matters of highway safety were continued as in former years. Special attention was given to this safety work during the Saturday and Sunday week-ends and holiday periods. There was the usual cordial cooperation rendered by the various safety committees, the police and other officials charged with safeguarding the public.

Dr. Charles S. Slocombe, who had been appointed as Expert Assistant to the Registrar, completed on May 31, 1932, his study of the problem of reducing loss and damage, injury and death resulting from the use and operation of motor vehicles. The Registry plans to continue to keep certain records regarding accidents which tend to reveal the so-called "repeaters". This special class of offenders will be given either cautionary advice or disciplinary treatment, according to their records.

A few of the outstanding figures for the year, together with a comparison of the previous year, follow:—

	1931	1932
Motor Vehicle certificates of registration issued	1,009,876	923,570
Licenses to operate issued	1,024,304	1,014,635
Examinations of applicants for licenses	112,763	81,036
Licenses and registrations revoked and suspended	58,306	73,511
Licenses revoked for driving under influence of liquor	5,535	4,824
Total number of applications handled	2,115,193	2,018,238
Gross receipts from fees	\$6,430,015.98	\$6,142,129.98

REGISTRATIONS OF PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES

The following registration figures show a 9.08% decrease in passenger registrations, a 3.45% decrease in commercial registrations, and motor cycle registrations dropping again to an abnormal decrease of approximately 45% over the previous year.

	1905	1915	1925	1929	1931	1932
Passenger cars	4,889	90,580	663,858	905,636	890,228	809,358
Commercial vehicles	—	12,053	100,480	113,268	116,580	112,551
Motor cycles	553	9,520	10,333	6,168	3,068	1,661
Totals	5,442	112,153	774,671	1,025,072	1,009,876	923,570

EXAMINATIONS FOR LICENSES

The system of examining prospective operators of motor vehicles was not changed in any respect during the year 1932, the appointment system being continued and the examination consisting of the usual demonstra-

tion on the highways, a reading test, an eye test, and a test of the applicant as to his knowledge of the motor vehicle law. The number of persons examined decreased noticeably at the fifty-five examining points in the State where examinations were given with the following results:—

	1931	1932
Operators passed	87,950	68,328
Operators unfit	15,519	8,735
Restriction removal, passed	8,306	3,873
Restriction removal, unfit	934	444
"Competency" passed	699	560
"Competency" unfit	58	29
Total examinations	113,466	81,969

BRANCH OFFICES

The branch offices of the Registry of Motor Vehicles are able to render practically the same service to the public that is rendered at the main office at Boston, except as to information from the records. Each branch office serves as a headquarters for the district in which it is located, both as to distribution of number plates and licenses, and law enforcement.

The following table gives approximate figures showing the distribution of applications received at the branch offices and at the central office at Commonwealth Pier, Boston:—

APPROXIMATE DISTRIBUTION OF REGISTRATIONS, LICENSES, ETC.

	Regis- trations	First Licenses	License Renewals	Miscel- laneous	Total
Boston:					
Counter	208,000	—	149,000	68,000	425,000
Mail	160,000	—	444,000	12,000	616,000
Examination	—	27,000	—	4,000	31,000
Pittsfield	23,000	2,000	17,000	5,000	47,000
Springfield	58,000	5,500	51,000	14,000	128,500
Greenfield	12,000	1,000	9,000	3,000	25,000
Northampton	10,000	1,000	7,000	3,000	21,000
Worcester	52,000	5,000	46,000	13,000	116,000
Fitchburg	17,000	1,000	13,000	4,000	35,000
Framingham	20,000	2,000	10,000	4,500	36,500
Lawrence	31,000	3,500	28,000	7,500	70,000
Lowell	25,000	3,000	21,000	5,500	54,500
Fall River	21,000	3,500	20,000	5,000	49,500
New Bedford	21,000	2,000	24,000	5,500	52,500
Lynn	58,000	6,500	45,000	14,000	123,500
Quincy	31,000	6,000	30,000	8,500	75,500
Brockton	40,000	3,000	30,000	11,000	84,000
Hyannis	10,000	1,500	6,000	2,000	19,500
Nantucket ¹	500	—	—	—	500
Oak Bluffs ¹	2,000	—	—	—	2,000
Totals	799,500 ³	73,500	950,000	189,500 ²	2,012,500

A new branch office was opened at Northampton on December 7, 1931, this office being classified as a sub-office in the Springfield District.

COMPULSORY MOTOR VEHICLE LIABILITY INSURANCE

The following figures give an approximate idea of the volume of papers received and notices mailed in connection with the carrying out of the law regarding compulsory motor vehicle liability insurance.

¹ Licenses and miscellaneous applications included in counter figures.

² This figure includes approximately 120,000 number plate reissues.

³ Does not include reissues (see Miscellaneous).

Notices of Cancellation of Insurance Policies Received and Intents to Revoke Mailed

	1931	1932
(a) For non-payment of premiums	85,298	112,994
(b) For other reasons	20,918	17,334
Total	106,216	130,328
Revocations	35,105	46,166
Sets of number plates returned	93,279	106,793

It is interesting to note that the receipt of 93,000 notices of cancellation from insurance companies required the mailing of the same number of notices of intent to revoke; that 37,328 notices of cancellation were received from finance companies; that 15,000 of these cases were adjusted by the filing of certificates by a new company; that 63,000 cancellations were adjusted by the filing of reinstatement notices from the same company; 6,000 by the surrender of registration plates prior to the effective date of cancellation; and 46,166 by the revocation of the plates and certificates. In connection with the surrender of the number plates it was necessary to send notices of the return of 106,793 plates to the various insurance companies covering the registrations involved.

Particular attention should be directed to the fact that of the 46,166 revocations only about 19,666 persons returned their plates and certificates promptly upon receiving notice from this office. The return of approximately 20,000 more sets of plates and certificates was secured through the efforts of the police departments; approximately 2,500 sets of plates and certificates were secured through the efforts of the examiners and inspectors of the Registry, leaving approximately 4,000 sets of plates not returned, although the registrations involved had been revoked and the insurance cancelled. Special attention is directed to this approximate number of 4,000 sets of plates not returned because this number represents a reduction of over 50% as last year 10,000 sets were not located and in previous years a greater number. This substantial improvement in the situation with regard to securing the return of credentials which have been revoked was due largely to a change in the system of following up revocation notices after cancellation of insurance and also to the efforts of inspectors and examiners of the Registry who personally secured plates not voluntarily returned or which the police were unable to locate. Practically all of these revocations were due to non-payment of premium cancellation notices.

AIRCRAFT

The statistics of the Aviation Section show an increase of approximately one hundred licensed pilots and a slight increase in the number of airplanes, notwithstanding which increase there were fewer suspensions and revocations of licenses and rights, and court prosecutions than in the previous year which is doubtless due to the knowledge that the aviation law is being strictly enforced.

It is to be noted, however, that there has been a decided increase in the number of personal injury and fatal accidents which exceeds in percentage the increase in pilots. The reason for this is not definitely known but it is hoped that two new regulations with the effect of law, which are proposed for promulgation in the fiscal year 1933, will have a tendency to reduce such accidents another year.

The blueprints of all the airports in the State have been rechecked by the Engineering Department and brought up to date. Additional surveys have been made and contour lines placed on all maps.

The investigation work shows a slight increase and it is interesting to note that the State has been divided into three aviation districts with an inspector covering each district, in order to permit the section to

continue its strict supervision of this new industry and enforcement of the law for the protection of all concerned, including the public at large, whether or not they use aircraft and including the flying personnel.

The following statistics summarize the work of this comparatively new but growing industry.

	1931	1932
Pilots' licenses issued	31	17
Airplanes registered	49	37
Pilots' license fees received, including examination fees	\$248	\$140
Airplane registration fees received	\$687	\$411
Duplicates issued	6	4
Certified copies issued	1	0
Duplicate fees received	\$ 6	\$ 4
Fees received for certified copies	\$ 1	0
Pilots examined for licenses and amendments	22	11
Aircraft examined for registrations, permits and repairs	436	470
Pilots' permits issued	358	476
Aircraft permits issued	298	323
Suspensions and revocations of licenses, registrations and rights to fly	37	34
Court prosecutions for violations of aircraft laws	6	5
Surveys of fields for airports	10	5
Recheck surveys of fields for airports	24	10
Flying fields approved	0	1
Flying fields disapproved	0	2
Investigations made by aircraft inspectors	763	821
Rulings made by Registrar	0	1
Airplane accidents:—		
Crack-ups	69	57
Non-fatals	12	21
Fatals	3	8
Persons injured	31	38
Persons killed	4	11
Planes damaged	67	67
Planes washed out	18	19
Caused by motor failure	20	17
Structural failure	8	6
Improper operation and other reasons	56	63
Ground accidents:—		
Crack-ups	15	10
Non-fatals	3	3
Fatals	1	0
Persons injured	3	3
Persons killed	1	0
Planes damaged	21	13

INSPECTION OF MOTOR VEHICLE EQUIPMENT

The third periodic inspection of the safety equipment of all motor vehicles registered in the commonwealth was held during the year 1932. The work was carried on by a permanent organization of Official Inspection Stations designated by the Registrar. Most of these stations have now been functioning for a period of three years and performed the work honestly and efficiently.

The results of the inspections confirmed the conclusions reached by former experience: that one inspection per year cannot be expected to secure the desired results. When business and other conditions warrant, it is to be hoped that two inspections per year can be conducted.

During the year approximately 783,000 cars were inspected. The result may be summarized as follows:

Total number of cars inspected	783,000
Total O. K. without repair or adjustment	407,000—52%
Total requiring replacement or adjustment	375,800—48%
Repairs or adjustments on the 375,800 vehicles requiring correction of defects in equipment were as follows:	
Brakes and lights	109,600—14%
Lights only	203,500—26%
Brakes only	39,150— 5%
Miscellaneous (horn, etc.)	23,490— 3%

School Bus Inspections

The first school bus inspection required by chapter 271 of the Acts of 1932, was held during the week of October 31, 1932. Eight hundred and three motor vehicles used for the transportation of school children were examined and tested by inspectors of this department at 39 designated examining points. Because of the provisions of the law, complete compliance with its equipment requirements cannot be insisted upon until the termination of all transportation contracts existing on August 26, 1932. In every case, however, brakes, lights, windshield wiper, etc., were required to be in proper condition and the vehicle generally in a safe condition.

Brakes, Lights and Overloads

Sixteen men were regularly assigned to equipment work. Besides their duties in connection with the periodic inspections of motor vehicles and school buses, these men did considerable road work in enforcing equipment requirements. 2,497 vehicles were reported for defective brakes; 15,182 for defective lights. 473 registrations were revoked because of dangerously defective equipment. In addition 391 owners were sent warning notices because of overloading and 44 registrations were revoked for this cause. Equipment inspectors also reported 2,761 cases of improper operation for action by the Registrar and 1,270 cases of violation of laws and regulations regarding equipment, dimensions of vehicles, etc.

Headlamps and Rear Lamps

The Registrar approved two new headlamps during 1932 and nine new tail lamps. Extension of approval was granted to cover one new type of headlamp of a make already approved. The new approvals granted mark a departure from customary headlamp design in that the left and right headlamp are not similar and the beam pattern is not symmetrical.

Cars equipped with the new lamps have the usual high and low beam controlled by a light switch, and in addition, a third beam, called the "passing beam," which is a combination of the two, in which the left beam is tilted down, the right remaining in the high position, illuminating the right hand edge of the road. The lenses, also, are different in each headlamp, being designed to bend the beam slightly to the right, the purpose being to eliminate to some extent the possibility of glaring rays being emitted by this lamp in such a direction as to cause discomfort to approaching drivers.

MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS

Deaths caused by motor vehicles in 1932 numbered 768, a decrease of twenty-five or 3.1 per cent as compared with the record of the previous year. The record of classified fatalities, injuries and collisions in the years 1931 and 1932 is as follows:—

Motor Vehicle Accidents to Persons

	Persons Killed		Persons Injured	
	1931	1932	1931	1932
Pedestrians by autos	434	426	15,499	15,793
Pedestrains by motor cycles	3	2	27	26
Pedestrians near street cars	9	11	59	24
Occupants of autos	281	277	31,142	30,186
Occupants of autos at railroad crossings	22	16	38	24
Occupants of motor cycles	14	9	458	240
Bicycle Riders	20	12	822	848
Occupants horse-drawn vehicles	2	5	279	279
Coasters on sleds	7	8	434	148
Coasters on wheels	1	2	79	90
Totals	793	768	48,837	47,658

	Children Killed		Children Injured	
	1931	1932	1931	1932
Boys	138	112	7,886	7,441
Girls	61	34	4,159	4,136
Totals	199	146	12,045	11,577

Number of Collisions

	1931	1932
Collision with pedestrian	15,169	15,672
Collision with automobile	19,629	20,168
Collision with horse-drawn vehicle	287	300
Collision with railroad train	31	23
Collision with street car	360	297
Collision with fixed object	1,846	1,887
Collision with bicycle	809	873
Non-Collision (overturn)	746	714
Collision with motor cycle	502	303
Collision with sled	383	120
Collision with animal	85	101
Coaster on wheels	—	82
Totals	39,847	40,640
In the daytime	25,018	25,394
After dark	14,829	15,246
Totals	39,847	40,640

ACCIDENT REPORT LETTERS

As provided by section 26, chapter 90, General Laws every operator of a motor vehicle in any manner involved in an accident in which any person is killed or injured is required to report in writing to the Registrar. The number of these formal accident reports received in 1932 was 48,864 as compared with 44,994 received in 1931. Under the requirements of section 29, chapter 90, General Laws, 19,859 similar reports of accidents were received from Police Departments throughout the State in 1932 as against 19,824 received in 1931. In addition, in connection with this reporting of accidents by operators, during the fiscal year 1931 there were received 15,882 letters and complaints reporting faulty operating. During the year 1932, these letters and complaints numbered 14,769.

COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, LICENSES, DEATHS, INJURIES, REVOCATIONS AND SUSPENSIONS

Year	Automobiles Registered	Motor-Cycles Registered	Total Registrations	Number of Persons Killed	Number of Persons Injured	Licenses Issued	Total Suspensions and Revocations	For Operating Under Influence of Liquor
1910	31,360	3,358	34,718	77	963	41,259	283	22
1911	38,907	3,658	42,565	110	1,248	51,950	360	14
1912	50,132	5,034	55,166	142	1,962	66,645	546	56
1913	62,660	7,127	69,787	188	2,923	81,034	608	87
1914	77,246	8,161	85,407	229	4,010	99,532	858	131
1915	102,633	9,520	112,153	294	6,197	133,935	1,153	202
1916	136,809	10,713	147,522	315	9,131	171,596	1,396	320
1917	174,274	11,065	185,339	438	7,282	214,229	1,831	485
1918	193,497	12,862	206,359	499	8,598	235,140	2,343	553
1919	247,133	13,698	260,831	582	16,287	297,968	2,156	554
1920	304,538	15,142	319,680	481	21,182	261,539	2,944	888
1921	360,731	12,058	372,790	544	11,487	380,519	4,899	1,508
1922	449,838	11,675	461,513	522	15,277	444,173	8,369	2,460
1923	566,150	11,733	577,883	578	16,217	536,819	11,613	3,333
1924	672,315	10,778	683,093	709	19,579	620,439	14,154	4,395
1925	764,338	10,333	774,671	755	25,736	698,378	16,249	4,654
1926	826,224	9,215	835,439	705	25,351	763,951	18,705	4,863
1927	819,703	7,245	826,948	693	31,721	814,094	31,252	4,983
1928	883,595	6,656	890,251	715	42,201	870,160	40,814	5,071
1929	1,018,904	6,168	1,025,072	777	46,111	944,338	53,133	5,381
1930	1,008,476	4,642	1,013,118	795	44,279	982,795	52,954	5,052
1931	1,006,808	3,068	1,009,876	793	48,837	1,024,304	63,841	5,535
1932	921,909	1,661	923,570	768	47,658	1,014,635	73,511	4,824

INVESTIGATIONS AND PROSECUTIONS BY INSPECTORS

Investigations were made under the direction of the Chief Inspector relative to fatal and non-fatal accidents, head light violations, inspection of garages, miscellaneous complaints and the prosecution of motorists in court. In the following tabulation it should be noted that the work of the inspectors includes a substantial increase in the number of accidents investigated.

It should be noted that the slight decrease in accidents, together with the lessening of work incident to the decreased registration and examination of new operators, has enabled our inspectors to increase substantially the number of formal investigations and reports made during the year, which situation is particularly desirable because as it becomes possible to investigate more and more all accidents, discipline of operators can be more properly administered and authorities be placed in a better position to remedy the situation by reason of the greater number of accidents so investigated.

Classification of Reports

	1931	1932
Accidents, fatal	746	748
Accidents, non-fatal	5,853	5,816
General reputation	4,437	5,943
Miscellaneous	7,879	11,764
Totals	18,915	24,271
Complaints filed	21,206	14,976
Garages inspected	5,911	5,471
Headlights and other violations reported	50,269	21,036
Prosecutions conducted	831	752
Amount of fines	\$35,815	\$26,175

REVOCATIONS AND SUSPENSIONS

	1931	1932
Licenses suspended	17,018	15,315
Licenses revoked	3,880	3,466
Rights suspended	5,236	4,651
Certificates suspended	8	0
Certificates revoked	35,577	48,417
Certificates and licenses suspended	21	22
Certificates and licenses revoked	1,882	1,435
Certificates revoked and rights suspended	173	123
Rights in Massachusetts suspended	46	82
Totals	63,841	73,511
Resulting from investigations	19,466	17,411
Resulting from Court convictions	9,277	8,196
Resulting from Police complaints	1,627	1,411
Resulting from Judges' complaints	35	21
Resulting from State Police complaints	229	210
Resulting from Insurance cancellations	33,207	46,262
Totals	63,841	73,511

Character of Offences

	1931	1932
Reckless and endangering	2,084	1,845
Liquor convictions	4,613	3,899
Going away after accidents	384	335
Without authority	822	831
Racing	0	0
Improper person	5,967	5,562
Improper person, liquor	922	925
Two overspeeds	172	34
Three overspeeds	12	4
Improper operation	13,548	9,436
Insurance cancellations	33,207	46,262
Insurance convictions	351	375
Improper equipment, miscellaneous	307	138
Improper equipment, lights	191	166
Improper equipment, brakes	400	415
Failure to have stickers	0	2,157
Fatal accidents	780	728
Other offenses	81	399
Totals	63,841	73,511
Formal hearings	7,325	7,188

Court recommendations adopted:—	1931	1932
Liquor	0	0
Reckless and endangering	53	33
Going away after accidents	17	6
Without authority	1	2
Allowing improper person to operate	0	1
Totals	71	42

Persons whose licenses were suspended or revoked and who had to pass examination in order to have them returned	4,113	3,805
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ANALYSIS OF COURT ABSTRACTS RECEIVED

	1931	1932
Number of courts forwarding abstracts	95	95
Total abstracts received	57,937	51,329
Number of abstracts recording convictions	38,869	36,149

Offences

(Analysis of convictions, not including appeals)

Overspeeding	12,890	11,366
Reckless	26	14
Operating under the influence of liquor	3,934	3,486
Using auto without authority	1,068	1,194
Endangering lives	2,220	2,253
Not stopping after causing injury	662	591
Without license	2,895	2,985
Without registration certificate	902	802
Unregistered vehicle	262	395
Improper display or no register number	132	178
Refusing to stop on signal	245	298
Unlighted lamps	820	500
Operating within 8 feet of street car	249	112
Violation of Metropolitan Park Rules	710	442
Operating after suspension or revocation of license	456	558
Larceny	139	115
Manslaughter	—	1
Miscellaneous	2,328	2,007
Racing	—	1
Operating after registration certificate revoked	8	22
No rear light	32	36
Not displaying lights	50	—
Passing red light	—	130
Improper lights	534	356
Brakes not as required by law	252	237
Violation of Insurance Law	316	416
Not slowing down approaching pedestrian	41	60
Not slowing down at intersecting way	5,942	5,191
Violation of law of road	1,723	2,312
Perjury—making false statements on license application, falsely impersonating or conspiring to obtain a license	21	17
Allowing intoxicated person to operate	3	5
Loaning a license to another	2	8
Attempted larceny	7	61
Totals	38,869	36,149

USED CAR SECTION

(Motor Vehicle Identification)

The following is a resume of the work accomplished by the Used Car Section which indexes, under the engine number, all motor vehicles registered and reported stolen, and checks reports of sales of used cars against the stolen vehicle records. Dealer's and repairmen's plates and registration certificates are issued by this office.

The work of this section is summarized in the following tables:—

<i>Dealers</i>	1931	1932
Total number of first class dealers reporting	1,255	1,240
Total number of second and third class dealers reporting	501	468
Total number making reports to this office	1,756	1,708

Reports

Approximate number of notices of intended sales received daily	230	243
Approximate number of dealers' reports received daily	1,085	823

Motor Vehicles Stolen

Number stolen in Boston	5,336	4,901
Number stolen in Massachusetts (including Boston)	10,720	6,211
Number reported stolen from various sources throughout the country, including Massachusetts	27,486	23,902
Number of motor vehicles recovered through information furnished by this office	355	423

Engine and Serial Numbers

Engine numbers assigned to cars	29	12
Certificates issued authorizing the replacement of engine numbers	701	456
Certificates issued authorizing the replacement of serial numbers	1,135	648
Certificates issued authorizing the replacement of both engine and serial numbers	18	19
Total number of authorized certificates issued	1,854	1,123

EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS

Representatives of the department attended meetings of the Conference held in Washington, D. C., on May 5 and 6, 1932. Various problems of highway safety were discussed. Plans were completed for a meeting of a committee of Conference members with representatives of motor car manufacturers for the purpose of securing reasonably safe motor vehicles on our highways and to consider the entire question of the motor vehicle industry's responsibility in reducing accident hazards. (This meeting was held in Detroit on September 26, 1932.)

Registrar Morgan T. Ryan was appointed chairman of a committee to co-operate with the National Bureau of Casualty Underwriters in a National Safety Campaign.

Because of economic reasons, Massachusetts was not represented at the Conference meetings held in Washington on October 6, 1932. This was unfortunate because a successful vote was thereby made possible on a headlamp approval which would have been opposed by Massachusetts representatives.

ANALYSIS OF RECEIPTS

The fees received for the year 1932, together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table:—

Certificates of Registration:

Passenger cars (including taxicabs)	805,459	\$2,490,759 00
Commercial cars	112,551	1,238,269 83
Buses	3,899	84,329 60
Trailers	525	33,464 50
Motor cycles	1,661	2,219 50
Manufacturers or Dealers (including repairers)	3,454	10,350 00
Manufacturers or Dealers additional cars (including repairers)	19,914	59,683 50

Licenses to operate:				
Original licenses	70,966	at	\$2.00	141,932 00
Renewal licenses	943,669	at	2.00	1,887,338 00
Examinations	63,793	at	2.00	127,586
Re-examinations	17,243	at	1.00	17,243
Total examinations	81,036			144,829 00
Copies of certificates and licenses furnished	37,004	at	\$1.00	37,004 00
Duplicate number plates furnished	7,146	at	1.00	7,146 00
Lens approval applications	3	at	50.00	150 00
Miscellaneous receipts, process fees, etc.				4,655 05
Total amount of fees				\$6,142,129 98
Motor vehicle fees rebated (deducted)				73,062 22
Net fees				\$6,069,067 76
Court fines received by the Treasurer and Receiver-General				425,416 03
Total receipts credited Highway Fund account, 1932				\$6,494,483 79

EXPENSES OF THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles for the year 1932 was \$1,508,235.97, which was 24.8 per cent of the net fees collected. This cost, deducted from the receipts for the year, left the sum of \$4,986,247.82 available for legislature appropriation for highway work.

ANALYSIS OF EXPENDITURES FOR THE FISCAL YEAR 1932

Payrolls

Personal services:				
Regular payroll			\$941,872 01	
Overtime payroll			9,186 66	
Scrubwomen's payroll			1,265 20	
				\$952,323 87

Expenses

Supplies:				
Books, maps, etc.			\$1,299 31	
Typewriter supplies			1,578 45	
Adding machine repairs and supplies			113 36	
Other supplies			3,241 15	
Stationery			22,561 86	
Typewriter repairs			116 13	
Other repairs			515 63	
				\$29,425 89
Equipment and Furniture				
Typewriter machines			\$4,631 12	
Other machines			2,141 63	
Desks			380 47	
Bookcases, tables, etc.			318 21	
Filing cabinets			1,860 27	
Chairs			404 22	
Dictograph			657 01	
Branches—Counter			410 00	
Electric fans			37 04	
Safe			289 10	
Headlight and brake testing expense			194 72	
Uniforms			5,607 79	
				\$16,931 58

Traveling expenses:

Officials	\$2,258 45
Employees	39,173 88
Aviation	3,285 66
Automobiles (owned by employes)	74,055 33
Automobiles (owned by State):	
Maintenance of 10 automobiles	3,784 71
Exchange of 2 automobiles	1,464 00
	<hr/>

\$124,022 03

Other services and expenses:

Expressage	\$2,901 99
Postage	91,460 26
Printing:	
Other reports	1,962 05
Other printing	6,560 70
Telephone	7,860 34
Premium on bonds of employees	404 46
Rent	46,000 00
Cleaning and janitor services	1,361 00
Rat extermination	320 75
Labor	1,190 00
Number plates	175,578 65
Direct mail lists	8,700 00
Sundries	231 57
Towels and Soap	1,162 65
Water and ice	1,099 20

Branch offices:

Rent, telephone, lighting, heating	28,749 22
Labor and services	5,781 41
Supplies and express	3,571 55
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\$384,895 80

Publicity for Safety Work

Labels	\$587 59
Posters	25 00
Printing	24 21
	<hr/>

\$636 80

Total	\$1,508,235 97
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Summary

Payrolls	\$952,323 87
Expenses	555,275 30
Publicity for Safety Work	636 80
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\$1,508,234 97

Special investigation of accident reduction	\$10,104 71
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RELATING TO WATERWAYS AND PUBLIC LANDS BOSTON HARBOR

THE COMMONWEALTH FLATS AT SOUTH BOSTON

Commonwealth Pier 5

The usual work required for maintenance of the pier has been carried on during the year. Repairs have been made to gangways, to the sprinkler system, to roofing and flashing, to elevators and elevator machinery, to steam lines, to fender logs and floating fenders, and to the heating plant.

Under a contract made Dec. 1, 1931, with Buckley and Scott Utilities, Inc., oil burning equipment was installed at the heating plant. This work was completed May 5, 1932, at a contract cost of \$13,764.01.

On Dec. 15, 1931, a contract was made with the New England Structural Company for the construction of a movable gangway and operating track on the wharf platform at the outer end of Pier 5. The contract prices for this work were: for track furnished and set in place in wharf platform, including grouting and all incidental work, \$1.68 for each linear foot of track measured in place in the completed work; for furnishing and erecting complete in place the entire superstructure of the gangway, including all incidental work, the lump sum of \$3105. This work was completed Mar. 8, 1932, at a contract cost of \$4093.80.

A contract was made on Apr. 12, 1932, with James C. Grant for alterations to the settings of two horizontal return tubular boilers at the heating plant, at the following contract prices: for changes in the setting of the boilers, including new work and connections, \$2,500; for relining fronts of boilers, \$100. This work was completed May 5, 1932, at a contract cost of \$2502.50.

On June 7, 1932, a contract was made with A. A. Hersey & Son Co. for repairs to the timber work of the platform at Pier 5. The repairs consist of furnishing, driving, fitting and securing new fender piles and new foundation piles, rebolting piles, furnishing and securing new bracing, securing existing loose bracing and any other necessary timber work in the pile platform. This work was completed Nov. 29, 1932 at a cost of \$7,249.00.

A contract was made on July 26, 1932, with the National Gunitite Contracting Company, for furnishing labor, materials and equipment for reconstructing concrete beams and slabs at Commonwealth Pier 5 and for protecting portions of the steel structure of the Viaduct. This work was completed Sept. 12, 1932 at a contract cost of \$7,145.01.

On Aug. 9, 1932, a contract was made with the Caigan Engineering Equipment Company for rebuilding the settings of boilers No. 1 and No. 2 at the heating plant, constructing a pit in front of these boilers, at a contract price of \$3,654. This work was completed Nov. 17, 1932 at a contract cost of \$3,654.00.

The summary of shipping at the pier during 1932 shows a 32 per cent increase in outward tonnage over the previous year, but a 17% decrease on inward tonnage. The year 1931, however, despite the business depression, gave the largest tonnage the pier has handled. Passenger service has also increased during the year. Further details of the freight and passengers using the pier in 1932 are given in the following table:

**NUMBER OF TONS OF FREIGHT AND PASSENGERS HANDLED AT COMMONWEALTH
PIER 5 DURING FISCAL YEAR ENDING NOVEMBER 30, 1932**

Name of SS. Line	No. of Ships	In Fgt. Del. RR.	(Tons) Trucks	Total	Out Fgt. Del. RR.	(Tons) Trucks	Total	Passengers		Total
								In	Out	
Am. Haw. SS. Co. .	96	42,520	96,322	138,842	7,442	27,472	34,914	-	-	-
Luckenbach SS Co. Inc.	73	5,369	48,625	53,994	3,807	12,725	16,532	-	-	-
Norton, Lilly & Co. .	57	815	10,928	11,743	563	3,464	4,027	-	-	-
White Star Line .	41	541	2,210	2,751	698	979	1,677	2,917	3,917	6,834
Canadian Nat. SS. Co..	112	-	-	-	-	28	28	5,280	5,859	11,139
Cosulich Line . .	11	11	-	11	23	39	62	-	3,547	3,547
Hamburg-Amer. Line .	5	-	-	-	-	-	-	168	502	670
North German Lloyd .	1	-	-	-	-	-	-	-	62	62
Norton Lilly & Co. (Foreign) . . .	1	236	248	484	-	-	-	15	-	15
Fabre Line . . .	1	-	-	-	-	-	-	-	289	289
Byron SS. Co. . .	6	-	-	-	-	-	-	-	785	785
Furness, Withy & Co. .	1	-	-	-	-	-	-	-	100	100
TOTAL. . .	405	49,492	158,333	207,825	12,533	44,707	57,240	8,380	15,061	23,441

DEVELOPMENT OF LAND SOUTH OF SUMMER STREET

During the year the seven sections in Storehouse No. 1 on E Street have been occupied by the Wiggin Terminals, Inc. In the Storehouse on D Street the Economy Grocery Stores Corporation continued through the spring the occupancy of section H under lease of May 24, 1929, and of section J under a permit from the Department.

Early in the year the Economy Grocery Stores Corporation asked to be allowed to buy from the Commonwealth the D Street Warehouse and began with the Department negotiations which went on for several months. Under agreements of May 10, 1932, and of June 7, 1932, approved by the Governor and Council on June 14, 1932, this building and land become the property of the Corporation upon the completion of the payment of \$300,000 to be made in ten annual payments, including interest each year upon the unpaid balance. The agreement provides that the Commonwealth may retain until Feb. 1, 1933, the use of section M of this warehouse and the use of section N until Apr. 1, 1933.

The sale of the D Street warehouse made necessary certain changes in the electric service to the storehouse on E Street.

On Oct. 4, 1932, a contract was made with the W. D. Smith Electric Company to install new equipment necessary to provide electric service from the mains in E Street at a contract price of \$625 for furnishing all labor, materials and equipment and installing such service complete. This work was completed Oct. 31, 1932, at a contract cost of \$625.

For better protection of the fire sprinkler system at the E Street Warehouse a motor driven compressor was furnished, installed and connected with piping to the sprinkler system. This work was done by the Grinnell Company at a contract cost of \$229.

GRASSELLI WHARF

Until early summer this property continued to be occupied by the Atlantic Radio and Marine Company, Inc., under a lease dated Oct. 1, 1930. In June the lessee was obliged to make an assignment to creditors and was unable to comply with the terms of its indenture. The property is now available for lease.

THE COMMONWEALTH FLATS AT EAST BOSTON

Aircraft Landing Field — Boston Airport

The greater part of the area reclaimed by the Commonwealth at East Boston is now occupied by the City of Boston as an airport. On Aug. 10, 1928, under authority of Chapter 64 of the Resolves of that year, the Department leased to the City approximately 5,717,000 square feet of land for this purpose. The use of an additional area of 4,210,760 square feet was authorized by a lease executed July 14, 1930, in accordance with the provisions of Chapter 53 of the Resolves of 1930. Negotiations are now in progress for the lease to the City of two additional parcels, one northeasterly of the areas included under leases of 1928 and 1930, and the other southeasterly of that leased in 1930.

The use of these areas by the City is, however, subject to certain rights of occupancy and use granted by previous agreements to the Federal Government. The lease to the War Department under date of June 30, 1922, contains an option for annual renewal to June 30, 1932. A supplementary agreement under date of Dec. 27, 1926, extended this option to June 30, 1937. To the Navy Department the lease of June 16, 1924, gives the option of continuing by annual renewals the use of a certain area to June 30, 1932.

RECLAMATION OF FLATS

The work of dredging and filling at East Boston under contracts made by the Department for the purpose of reclaiming flats has been in abey-

ance since 1923. Between that year and Nov. 30, 1932, approximately 2,567,000 cubic yards of material dredged from various locations in the harbor have been deposited in the receiving basin. In the year ending Nov. 30, 1932, approximately 31,500 cubic yards were dumped upon flats northerly of Governor's Island. The Commonwealth has reclaimed about 150 acres of land at East Boston.

Under licenses granted in 1930 and 1931, for the building of bulkheads, dredging and filling, the City has reclaimed for the extension of the Airport, an area of approximately 140 acres.

COMMONWEALTH PIER 1, EAST BOSTON

The work of renewing fender piles, splicing foundation piles, replacing girder caps, wales, fender capping and deck planking in the platforms of the pier, under contract of Oct. 27, 1931, with Michael Solimando was completed Jan. 15, 1932, at a contract cost of \$2,714.92.

During the year the east and west docks of this pier have been used by the Eastern S. S. Lines, Inc., for tying up steamers not in service.

EAST BOSTON — ABANDONED HULKS

Under authority of Chapter 465 of the Acts of 1931, Extra-Session, the Department has carried on during the year the removal of hulks of dismantled vessels grounded and abandoned years ago along the East Boston waterfront. The appropriation of \$65,000 made by said act has been expended under the following contracts:

On Dec. 2, 1931, a contract was made with the Blakeslee Rollins Corporation for removing from tidewater the hulk of the steamer "Coyote" lying on flats on the northerly side of Apple Island at East Boston and for placing the wreck above high water back of the bulkhead on the South side of the Reserved Channel at South Boston, for the lump sum of \$6,700.

After floating this wreck the contractor found the hulk of very heavy construction of large timber planking strongly bolted and with an unusual amount of metal. The difficulty of breaking up this material after its removal from tide water appeared so great that after disposing of some of the lighter timbers at South Boston the contractor asked to be allowed to sink the remainder of the hulk at sea and offered a concession of \$1,000 upon the contract price if such disposal was authorized. The "Coyote" was accordingly sunk at sea on Jan. 11, 1932, in accordance with the direction of the U. S. Engineers. The contract cost of the removal and disposal of the wreck of the "Coyote" was \$5,700.

A contract was made on Dec. 29, 1931, with the New England Maintenance Co., Inc., for the removal from tide water of several hulks adjacent to the corner of Border and Condor Sts., East Boston, on properties of the Boston Port Development Company and the depositing of the material removed on the fill over the bulkhead at the Reserved Channel, South Boston, for the lump sum of \$11,000. A part of the material removed was placed upon the upland at East Boston. In February additional work under the terms of this contract was authorized to include the removal of hulks and wrecks lying in part on property of the George E. McQuesten Co., at a price of \$400, and of hulks uncovered at Meridian and Condor Streets during the work, at a price of \$2,600. All the work was completed July 15, 1932, at a contract cost of \$14,000.

On Jan. 12, 1932, a contract was made with A. A. Hersey and Son Company to remove several hulks from tide water at property of Frederick H. Viaux at Condor Street, East Boston. The contract price for the removal and disposal of these hulks was the lump sum of \$8,570. This work was completed May 21, 1932, at a contract cost of \$8,570.

A contract was made Feb. 9, 1932, with the Merritt-Chapman & Scott Corporation for the removal of hulks or wrecks from Chelsea Creek on property of Jessie D. Wright at Condor Street, East Boston, for the lump sum of \$8,800. This work was completed Apr. 23, 1932, at a contract cost of \$8,800.

On Mar. 15, 1932, a contract was made with the New England Maintenance Company, Inc., for the removal of hulks or wrecks from property of the Boston Port Development Company at Jeffries Point, at the following contract prices: for removal and disposal of wrecks on premises at Marginal Street adjacent to property of the International Glue Company, the lump sum of \$3,000; for removal and disposal of wrecks on premises at Marginal Street adjacent to McDonald's Wharf, the lump sum of \$900. This work was completed June 28, 1932, at a contract cost of \$3,900.

In order to give by this work as much relief to unemployment as possible, in accordance with the intention of said Chapter 465, additional labor was hired by the Department to break up the timbers and salvage the metal from the hulks removed from tide water and placed upon the upland by the contractors.

In addition to the work done by the Commonwealth, certain owners of flats at East Boston removed at their own expense hulks lying at their property. Such work was done by the George McQuesten Company, the Boston and Lockport Block Company, the Bay State Dredging and Contracting Company, W. H. Ellis and Son Company, the Boston Elevated Railway and Bertelsen and Petersen.

Under the provisions of Section 3 of said Chapter 465, the expense incurred in the removal of wrecks was to be a lien upon the premises from which they were taken. This section was later repealed by Chapter 115 of the Acts of 1932, approved Mar. 28, 1932.

BOSTON INNER HARBOR — DREDGING

On June 14, 1932, a contract was made with the Bay State Dredging and Contracting Company for dredging two areas in Boston Harbor, as follows: An area approximately 900 feet long and 400 feet wide in the vicinity of Boston & Albany Railroad Pier 2 at East Boston, to a depth of 35 feet at mean low water; an area approximately 1500 feet long and 400 feet wide in the vicinity of Pier 1 of the New York, New Haven and Hartford Railroad at South Boston, to a depth of 25 feet at mean low water. The contract price for this work was: for dredging and disposing of dredged material 37 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed Oct. 29, 1932, at a contract cost of \$33,850.56.

TENEAN CREEK DREDGING

Hearing was held Jan. 27, 1932 upon a petition of the Dorchester Board of Trade, and others, for dredging the channel in Tenean Creek to a depth of 12 feet at mean low water from the main ship channel in Neponset River to the berth at property of E. L. & W. H. Cutter.

A contract was made on June 14, 1932, with the Bay State Dredging and Contracting Company for dredging a channel approximately 800 feet long and 60 feet wide to a depth of 12 feet at mean low water, in Tenean Creek, Dorchester, at the following contract prices: for dredging and disposing of the dredged material 48 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed Aug. 3, 1932, at a contract cost of \$5,388.48.

HULL SEA WALLS

The work of placing concrete footing under and in front of about 245 linear feet of existing sea wall, the building of about 55 linear feet of new sea wall, at Stony Beach, and the placing of concrete footing under and in front of 175 feet of wall at Pemberton Point, under contract of Nov. 10, 1931, with Bradford Weston, was completed Jan. 18, 1932, at a contract cost of \$2,929.94.

WINTHROP HARBOR, WINTHROP

The work of removing boulders from the basin of the Winthrop Yacht

Club under contract of Nov. 10, 1931, with the Trimount Dredging Company was completed Mar. 30, 1932, at a contract cost of \$946.00.

SURVEYS

During the year resurveys have been made of wharf and shore lines along portions of the Mystic River in Everett and Medford, and of Island End River in Everett and Chelsea. Hydrographic surveys have been made in Weymouth Fore River, Quincy and Weymouth, from Quincy Point Bridge upstream about three-quarters of a mile, and in Town River and Quincy Bay at the Squantum and Wollaston Yacht Clubs.

RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, chapter 91, General Laws, an appropriation of \$75,000 was made during 1932 with the following condition:—

“provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered.”

An appropriation of \$22,500 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from the tide waters and great ponds.

Petitions were filed with the Department during the year for surveys and improvements in the following localities: Allens Harbor, Harwich; Briggs Harbor, Scituate; Falmouth Shore Protection, Falmouth; Harwich Shore Protection, Harwich; Herring River, Harwich; Hyannis Harbor, Barnstable; Marshfield Sea Walls, Marshfield; Plymouth Harbor, Plymouth; Warren's Cove, Plymouth; West Chop Shore, Tisbury; Witchmere Harbor, Harwich.

Public hearings have been held, certain estimates of cost made, but no work has been done to carry out the improvements petitioned for in Allens Harbor, Harwich; Briggs Harbor, Scituate; Herring River, Harwich; Plymouth Harbor, Plymouth; Warren's Cove, Plymouth; and Witchmere Harbor, Harwich.

Information relating to work previously done in various rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands of the Department of Public Works and in the tables of the Appendix accompanying the present report. These reports show localities, character of work, appropriations and expenditures by the Commonwealth, and certain appropriations and expenditures by the Federal Government.

An account of work done during the year 1932 for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, follows:

ALLENS HARBOR, HARWICH

The work of extending the existing timber fence, placing riprap and back filling and additional riprap for further protection of an existing fence, under contract of Nov. 24, 1931, with George W. Starbuck, was completed Jan. 19, 1932, at a contract cost of \$1,792.05.

During the storms of March the sea lifted a section about 125 feet long of the fence built in 1928, throwing it out of alignment and threatening to break through the intervening beach and open a cut to the east of the jetty. Under a letter contract with George W. Starbuck the fence was rebuilt and riprap replaced at a cost of \$1,343.23.

The timber jetties built in 1926 at the entrance to this harbor, were constructed of untreated timber. Soon afterward the marine borer (teredo navalis) appeared in these waters and began to perforate the structures. As a result the jetties are now badly damaged and should be replaced with heavy stone riprap or steel sheet piling. The cost of such replacement is estimated at \$12,000 or \$15,000 depending upon the type of construction. At present material is moving through the jetties into the channel at a rate that will soon cause shoaling to an amount that will prevent even boats of shallow draft from entering the harbor.

Amount expended during the year, \$3,910.84. Total expenditure to Dec. 1, 1932, \$38,707.80.

CAPE COD CANAL LANDING PIER

The War Department of the United States, in accordance with the request of the Department, under the provisions of Ch. 441 of the Acts of 1931, granted a permit on Dec. 15, 1931, for the construction at Bourne Neck of the landing pier in the Cape Cod Canal.

In April the County Commissioners of Barnstable County made the necessary taking of land for the roadway leading to the site of the pier. The Department on Apr. 26, 1932, made a taking of the pier site and the area between mean high and low water required for the construction of the pier and for the dredging of berths and turning basin.

A contract was made on Apr. 26, 1932, with the Merritt-Chapman & Scott Corporation for the construction of a landing pier in the town of Bourne, including the dredging of a berth, approach channels, a turning basin and the construction of mooring dolphins and appurtenances, at unit prices for the construction work and at the following prices for dredging: for dredging berth, approach channel and turning basin and disposing of dredged material in solid fill portion of pier, 22 cents for each cubic yard measured in place; for dredging berth, approach channels, turning basin and cable trench and disposing of dredged material away from the site of the work, 20½ cents for each cubic yard measured in place; for removing and disposing of boulders \$15 for each cubic yard.

The type of pier designed for the Cape Cod Canal and approved by the U. S. War Department consists of a steel and concrete solid fill pier 600 ft. long and 75 ft. wide located at the westerly end of the Canal at Buzzards Bay and parallel to the centre line of the Canal. In addition, provision has been made for a turning basin with dolphins for turning and tying up vessels in Buzzards Bay adjacent to the westerly end of the main pier. This turning basin will accommodate a vessel 500 feet long.

Amount expended during the year, \$170,893.32. Total expenditure to Dec. 1, 1932, \$170,893.32.

FALMOUTH SHORE PROTECTION

Hearing was held on Jan. 27, 1932, on the petition of the Selectmen of Falmouth for protection of the shore of Vineyard Sound along the road from Falmouth Height to Menauhant.

On May 24, 1932, a contract was made with Sidney W. Lawrence for constructing about 350 linear feet of timber bulkheads, nine timber jetties and the placing of about 630 tons of stone riprap and chips on the Menauhant Shore in Falmouth. The contract prices were: for each creosoted yellow pine pile furnished and driven in the completed work, \$4.50; for each untreated yellow pine pile furnished and driven in the completed work, \$2.00; for each thousand feet board measure, of creosoted yellow pine lumber furnished, driven and set in place, \$86; for each ton of riprap and chips furnished and set in place in the completed work \$2.50. This work was completed Aug. 24, 1932, at a contract cost of \$5,324.17. Toward this cost a contribution of \$3,100 was made by the Town of Falmouth.

On account of the low contract prices for this work the Department was able to increase the length of shore protected to 464 feet. The work, since its completion, has been subjected to several severe storms and is, apparently, proving effective against erosion.

Amount expended during the year, \$6,075.33. Total expenditure to Dec. 1, 1932, \$76,743.04.

GREEN HARBOR, MARSHFIELD

A survey in the spring of the outer portion of the entrance channel revealed a small shoal forming between the outer ends of the two stone jetties at the entrance to the river, narrowing the channel and obstructing the passage of boats.

A contract was made on May 31, 1932, with the Bay State Dredging and Contracting Company for dredging a channel 75 feet wide on the bottom and 6 feet deep at mean low water through a shoal at the entrance to Green Harbor, at the following contract prices: for dredging and disposing of the dredged material, \$1.12 per cubic yard, scow measurement; for removing and disposing of boulders \$15 per cubic yard. This work was completed June 17, 1932, at a contract cost of \$3,696.00.

The present jetties at the outlet to Green Harbor are, evidently, not long enough to prevent the movement of sand around the ends of the structures and into the channel. To maintain in the harbor entrance a channel depth of 6 feet or more at mean low water will require the extension of both jetties to deeper water. It is probable that additional dredging in the channel entrance will be needed in 1933 on account of the rapid movement of material around the outer ends of these jetties.

Amount expended during the year, \$6,956.21. Total expenditure to Dec. 1, 1932, \$165,469.37.

GREEN HILL, HULL

In September a petition was received from residents of Hull asking for repairs and additions to the sea wall at the foot of Green Hill. An inspection showed a section of wall slightly undermined for a distance of about 75 feet and eight of the spur jetties broken.

On Oct. 25, 1932, a contract was made with Thomas Whalen & Sons, Inc., for constructing 8 concrete spur jetties and placing a concrete footing in front of a portion of the sea wall between Gun Rock and Green Hill. The contract price for this work is \$8.15 for each cubic yard of concrete in place in the completed work, including all excavation, backfilling and incidental work. This construction is now in progress.

Amount expended during the year, \$618.79. Total expenditure to Dec. 1, 1932, \$78,877.92.

HARWICH SHORE PROTECTION

In accordance with plans and recommendations made last year for the protection of this shore a contract was made on Dec. 15, 1931, with Joseph W. Nickerson for the construction of four stone jetties at West Harwich Beach at a contract price for furnishing and placing heavy stone riprap and granite chips in the jetty, of \$2.59 for each ton of 2000 pounds. This work was completed Feb. 19, 1932, at a contract cost of \$4,266.82. Toward this cost a contribution of \$2,500 was made by the Town of Harwich.

On Nov. 9, 1932, a contract was made with Sidney W. Lawrence to build a stone spur jetty 130 feet long about two hundred feet easterly of Gray's Neck Road on the beach at West Harwich, at a contract price of \$3.12 for each ton of stone riprap furnished in place in the completed work.

Hearing was held Jan. 27, 1932, upon petition of the Selectmen of Harwich for building stone jetties along the shore at South Harwich.

In the spring it became necessary to strengthen the fence east of the easterly jetty at Herring River by the placing of stone riprap, and to deposit riprap at the northerly end of a stone jetty in West Harwich. The three projects were combined in plans and specifications and on May 3, 1932, a contract was made with Arthur K. Finney for the construction of five stone jetties at South Harwich, the placing of about one hundred tons of riprap in front of the timber bulkhead at the entrance to Herring

River, and the placing of about thirty tons of riprap at the northerly end of a stone jetty at West Harwich, at a contract price of \$3.33 for each ton of 2,000 pounds furnished and placed. This work was completed June 23, 1932, at a contract cost of \$3,556.97. Toward the cost of this improvement a contribution of \$2500 was made by the town of Harwich.

Under a letter contract of June 6, 1932, with Arthur K. Finney a stone jetty was built at property of Robert Bitzer near the Chatham-Harwich line. The work was completed July 5, 1932, at a contract cost of \$1,206.75. Toward the cost of this jetty a contribution of \$350 was made by Mr. Bitzer.

The work carried on for several years for the protection of the Harwich Shore is proving effective, but erosion continues to cause serious damage along a considerable part of the shore of Nantucket Sound where no such projects have been undertaken.

Amount expended during the year, \$10,583.36. Total expenditure to Dec. 1, 1932, \$162,781.62.

HYANNIS HARBOR, BARNSTABLE

Hearing was held Jan. 27, 1932, on petitions of the Selectmen of Barnstable for dredging in Lewis Bay.

At the time of hearing the town of Barnstable wished to provide a public landing place in Lewis Bay and was willing to spend \$13,000 in building a timber bulkhead, and to make a contribution toward the cost of dredging two areas in Lewis Bay, if excavated material could be placed back of the bulkhead to complete the construction of the landing. The town voted in March to appropriate \$21,750 for the bulkhead and dredging and in April the Selectmen asked the Department to undertake the entire improvement.

On June 28, 1932, a contract was made with Thomas Whalen & Sons, Inc., for furnishing all labor, equipment and materials for the construction of about 900 linear feet of creosoted timber bulkhead in Hyannis Harbor at a contract price of \$11.90 for each linear foot of bulkhead constructed in place. This work is now in progress.

A contract was made on Aug. 9, 1932, with the Saybrook Dredging Company for dredging three areas in Hyannis Harbor, two areas to a depth of 6 feet at mean low water and one area to a depth of 9 feet at mean low water, at the following contract prices: for dredging and disposing of excavated material on the marsh, flats and behind the bulkhead by the hydraulic process, or other means, including the construction of necessary dikes, sluices and spillways and incidental work, 18.89 cents for each cubic yard measured in place; for removing and disposing of boulders \$10 per cubic yard. This work is now in progress.

In connection with the building of the timber bulkhead certain drainage work not covered by the original contract became necessary.

On Oct. 4, 1932, a contract was made with Thomas Whalen and Sons, Inc., for furnishing and laying about 10 linear feet of 8-inch pipe, 200 linear feet of 10-inch pipe, 162 linear feet of 12-inch pipe and 110 feet of 15-inch pipe and the construction of four catch basins at the Town Landing east of Ocean Street at Hyannis. This work was completed Nov. 26, 1932, at a contract cost of \$821.50.

Amount expended during the year, \$11,247.56. Total expenditure to Dec. 1, 1932, \$78,052.29 in Lewis Bay and Hyannis Harbor.

LAGOON POND, OAK BLUFFS AND TISBURY

Hearing was held on Jan. 28, 1931, on a petition of the Selectmen of Oak Bluffs and of Tisbury for dredging a channel through a bar in Vineyard Haven Harbor at the outlet of Lagoon Pond.

An investigation made of conditions at the outlet of the pond convinced the Department that any channel dredged could be maintained only by the construction of a jetty on the easterly side to check the drift of material into the area excavated.

Before undertaking a project of this character the Board required the

towns to secure the necessary releases from the owners of property involved and to make contributions amounting to one-half the cost of the work.

The releases were filed in August, 1932, and two checks for \$6,750 each, were received from the towns of Oak Bluffs and Tisbury during the month.

On Aug. 23, 1932, a contract was made with Merritt-Chapman & Scott Corporation to dredge at the entrance to Lagoon Pond a channel 100 feet wide on the bottom and 6 feet deep at mean low water, and to construct a stone jetty about 450 feet long on the easterly side of said channel. The contract prices for this work are: for dredging and disposing of the dredged material on marsh and flats by the hydraulic process, including the construction of necessary dikes and sluices, thirty-five cents for each cubic yard measured in place; for removing and disposing of all boulders, \$25. for each cubic yard; for each ton of riprap or stone chips furnished and placed in the completed work, \$3.23. This work is now in progress.

Amount expended during the year, \$16,166.29. Total expenditure to Dec. 1, 1932, \$16,476.04.

LONG BEACH, ROCKPORT

While the building of the sea wall completed in 1931, was going on, it became evident that adequate protection would require the placing of filling back of the structure to an elevation a little below the top of the wall. The town of Rockport made a contribution of \$1,000 toward the cost of the work. Under a letter contract with George W. Nicoll Co., Inc., filling back of the sea wall was placed to an elevation two feet below the top of the structure at a contract cost of \$2,000.

Amount expended during year, \$9,390.57. Total expenditure to Dec. 1, 1932, \$52,516.31.

MARSHFIELD SHORE PROTECTION

Under the provisions of Chapter 407 of the Acts of 1931, the protection of the Marshfield shore has been continued during the year. The work of placing heavy stone riprap and stone chips to protect the bank, timber bulkhead and concrete sea wall at Brant Rock, east of Ocean Avenue and south of Shepard Street, under contract of Sept. 15, 1931, with Raymond A. Bergesson was completed Jan. 29, 1932, at a contract cost of \$29,-096.75.

The sea wall built on the beach at Fieldston under contract of Sept. 15, 1931, with Louis B. Cardario and Sons was completed Dec. 23, 1931, at a contract cost of \$83,706.24.

After the building of the sea wall at Fieldston, filling was placed back of the structure under contract made Mar. 29, 1932, with Thomas Whalen and Sons, Inc., for furnishing all labor, equipment and materials for filling back of the concrete sea wall at Fieldston at a contract price of 27 cents for each cubic yard of material measured in place in the completed work. The filling back of the wall was completed June 14, 1932, at a contract cost of \$3,512.70.

The Selectmen asked in the spring for the construction of steps to give access to the beach over the sea wall at Fieldston, at approximately every third street terminating at the wall. On Mar. 29, 1932, a contract was made with Thomas Whalen & Sons, Inc., for the construction of rubble concrete steps with wrought iron railings over the concrete sea wall on the beach at Fieldston, at the following contract prices: for all rubble concrete measured in place in the completed work, including the furnishing of all material, labor and incidental work, \$6.22 for each cubic yard; for each set of wrought iron railing in place, including all material, labor and incidental work, \$95.00 for each set. This work was completed June 16, 1932, at a contract cost of \$4,764.56.

A contract was made Dec. 1, 1931, with Philip B. Oakman to build a concrete sea wall faced with riprap about 1100 feet long, with return walls

about 20 feet long, and to place riprap protection for a length of about 850 feet on the beach south of Brant Rock, at the following contract prices: for furnishing materials and constructing the concrete sea wall including excavation, backfill and all incidental work, \$7.65 for each cubic yard of concrete measured in place in the completed work; for furnishing and placing heavy stone riprap and chips against the sea wall and bank, including excavation and all incidental work, \$1.70 for each ton of 2000 pounds in place in the completed work. This work was completed May 14, 1932, at a contract cost of \$24,286.99.

While work upon this wall was in progress, a petition was received from the Selectmen asking that the structure be extended southerly from the U. S. Coast Guard Station for a distance of about 700 feet. The Department agreed to undertake the work, but, at the request of summer residents postponed action until the fall.

On Sept. 27, 1932, a contract was made with A. Piatelli and Company for constructing about 700 linear feet of concrete sea wall, with an opening for the taking of boats from the beach, at a location south of the U. S. Coast Guard Station at Brant Rock, at a contract price of \$6.65 per cubic yard of concrete, measured in place in the completed work, for furnishing material and constructing the concrete sea wall, including excavation, backfill and all incidental work. This work is now in progress.

Under the provisions of said Chapter 407 protection has been provided for the Marshfield shore from a point about one half mile northerly of Fieldston to a point at Brant Rock. For a half-mile beyond Brant Rock the shore is protected by a masonry wall constructed some years ago. Southerly from this wall for a distance of 1500 feet a new concrete sea wall has been built. Northerly of the entrance to Green Harbor riprap is being placed to prevent further erosion. When the work now in progress is completed, the shore of Marshfield would seem to be protected adequately for some years to come.

Amount expended during the year, \$84,547.84. Total expenditure to Dec. 1, 1932, \$214,973.29.

MENAMSHA INLET, CHILMARK AND GAY HEAD

The placing of 2,900 tons of stone riprap and chips and about 340 cubic yards of sand filling in three locations at Menamsha Inlet, under contract of Nov. 3, 1931, with the Merritt-Chapman and Scott Corporation was completed Feb. 26, 1932, at a contract cost of \$12,777.82.

Amount expended during the year, \$13,146.27. Total expenditure to Dec. 1, 1932, \$130,243.43.

NEW BEDFORD STATE PIER

The larger portion of this pier has been, since September, 1927, under lease to the Lamport Manufacturing Supply Company, Inc.

The lease provides for the use by the Company of a specified portion of the pier for a period of ten years beginning Sept. 1, 1927, at a rental of \$6,000 per year for the first five years, and of \$10,000 per year for the five years following. The Company agrees by the terms of the lease to provide reasonable facilities for vessels desiring to use the present unenclosed area of the pier for water-borne commerce, as well as reasonable accommodation for loading and unloading cargo. The charges made for such uses of the pier are to be those established by the Department, effective since July 15, 1925.

The pile platform built in 1931 on the northerly side of the pier has been operated during the year by the Department. Several steamship companies have used this part of the pier for docking vessels and for discharging cargoes, chiefly of cotton. Most of the cargo handled has been incoming freight, but one shipment of tire fabric consigned to Pacific Coast ports has been made from the pier.

On Mar. 8, 1932, a contract was made with Frank C. Taylor for furnish-

ing and placing floating fender logs and for securing them to the north side of the wooden wharf of the State Pier at New Bedford. The contract prices for this work were: for furnishing and placing each floating fender log 40 feet to 60 feet long, including all bolts and fastenings, \$4.50 per linear foot of fender measured in place in the completed work; for furnishing and placing each wrought iron chain 4 feet long, the lump sum of \$25. This work was completed Mar. 24, 1932, at a contract cost of \$1,276.94.

A contract was made on May 10, 1932, with the Gunitite Construction Company for furnishing labor, tools, equipment and material, and for reconstructing and repairing plaster walls on the shed at the State Pier at the following contract prices: for removing existing plaster wall on the south side of the wooden shed, and replacing said wall with new gunitite wall, the lump sum of \$1,151; for removing existing plaster walls from the south side of the steel shed and at the southeast corner of the pier, and replacing said walls with new gunitite walls, the lump sum of \$324; for placing new gunitite surface one inch thick on the easterly face of the steel shed, the lump sum of \$995. This work was completed Aug. 23, 1932, at a contract cost of \$2,594.98.

By Chapter 273 of the Acts of 1932, the Department was authorized to build a shed on the extension of this pier, or a roof to cover said extension built under Chapter 460 of the Acts of 1931, Item 625. For the purpose an appropriation of \$7,000 was subsequently made.

On July 5, 1932, a contract was made with the McClintic-Marshall Corporation to construct a steel canopy approximately 260 feet long and 30 feet wide over a portion of the timber platform on the north side of the pier, at the lump sum price of \$5,319. This work was completed Sept. 2, 1932, at a contract cost of \$5,484.

A contract was made on Oct. 4, 1932, with W. Edward Howarth for furnishing and installing a lighting system at a contract price of \$619.51 for furnishing all labor, materials, and equipment and installing all electrical work. This work together with the installation of two additional lights and of replacements not included in the original contract, was completed Nov. 7, 1932, at a contract cost of \$679.51.

Minor repairs to the pier have been carried on as usual during the year.

Amount expended for operation, maintenance and improvement during the year, \$24,476.08.

Income during the year, \$14,460.09. Total expenditure for operation, maintenance and improvement to Dec. 1, 1932, \$124,393.49.

OAK BLUFFS SEA WALLS

The storm ending Nov. 10, 1932, resulted in minor damage to structures built by the Commonwealth in two locations along the shore of Oak Bluffs. A section of the sea wall about 65 feet long easterly of the entrance to Lake Anthony was undermined and overturned. The timber bulkhead at the Highlands was so battered for a distance of about 300 feet that the top moved forward causing openings which allowed the escape of a part of the back filling. Six of the supporting jetties of creosoted timber were entirely removed and a seventh badly damaged.

A letter contract was made on Nov. 28, 1932, with Arthur K. Finney for repairs and additions, to the timber bulkhead and jetties by the driving of oak piles and interlocking steel sheet piling.

On Nov. 29, 1932, a contract was made with the Merritt-Chapman & Scott Corporation for the removal of a broken section of the concrete sea wall scutherly of the entrance to Lake Anthony, for the construction of a new section about 65 feet long and the furnishing and placing of about 150 tons of heavy riprap in front of the new wall and extending in front of the older portion of the concrete sea wall to the southerly stone jetty. The contract prices for this work are: for furnishing and constructing the section of sea wall, including excavation, back fill and all incidental work, \$13.00 for each cubic yard of concrete measured in place in the

completed work; for each ton of stone riprap furnished in place in the completed work, including all cleaning up and all incidental work, \$3.75. This work is now in progress.

Amount expended during the year, \$21.80. Total expenditure to Dec. 1, 1932, \$141,099.57.

COMMONWEALTH PROPERTY AT PLYMOUTH

An appropriation of \$3,800 was made by the Legislature this year for the maintenance and repair of property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Department by vote of the Governor and Council on July 17, 1924.

The work of making repairs to the canopy over Plymouth Rock and of placing copper over the roof was completed by the Beattie Corporation on Feb. 27, 1932, at a contract cost of \$1,179.39.

Complaints were received during the year concerning the condition of parts of the granolithic side walk and curbing where settlement had occurred. Investigation showed that no ballast was placed under the concrete when the walks were built and that the damage was caused by poor drainage. Minor repairs have been made during the year to sections where settlement has been most marked.

Amount expended during the year, \$4,248.44. Total expenditure to Dec. 1, 1932, \$44,649.41.

PROVINCETOWN TERCENTENARY COMMISSION

During the year the land at Provincetown acquired by the Provincetown Tercentenary Commission and placed under the control of the Department June 23, 1926, has been cared for from funds appropriated for the use of the Province Lands. One employee of the Department has been kept at work during the summer to maintain this park in proper condition.

SCITUATE HARBOR, SCITUATE

On Apr. 12, 1932, a contract was made with John J. Johnson for the removal from tide water of a wreck in the anchorage basin on the south side of Scituate Harbor, for the lump sum of \$146. This work was completed May 20, 1932.

Amount expended during the year, \$146. Total expenditure to Dec. 1, 1932, \$206,011.94.

SCITUATE SEA WALLS

Under the provisions of Chapter 424 of the Acts of 1931, protective work along the Scituate shore has been continued during the year.

First Cliff

A contract was made on Oct. 11, 1932, with Joseph F. Cavanagh for placing about 250 tons of stone riprap to protect the face of a portion of First Cliff, at a contract price of \$1.57 for each ton of stone riprap furnished in place. This work was completed Nov. 3, 1932, at a contract cost of \$587.97.

Sand Hills

A letter contract was made on July 5, 1932, with Thomas Whalen and Sons, Inc., for placing 800 tons of stone riprap upon the crest of the beach northerly of the north end of the sea wall.

Later in the summer the Selectmen asked for the construction of two ramps in front of openings left in the sea wall repaired in 1931.

On Sept. 6, 1932, a contract was made with George W. Starbuck for the construction of two rubble concrete ramps in front of two openings in the existing concrete sea wall at the Sand Hills, at a contract price of \$5.87 for each cubic yard of concrete measured in place in the completed work. This construction was finished Oct. 11, 1932, at a contract cost of \$522.37.

Second Cliff

On May 31, 1932, a contract was made with Thomas Whalen & Sons, Inc., for the placing of about 2,000 tons of stone riprap to protect the face of a portion of Second Cliff, at a contract price of \$1.64 for each ton of stone riprap or chips furnished in place in the completed work. This project was completed July 15, 1932, at a contract cost of \$4,445.54.

Third Cliff

The placing of 2000 tons of heavy stone riprap to protect the face of a portion of the bluff at Third Cliff, under contract of Aug. 25, 1931, with John P. Cavanagh, was completed Dec. 28, 1931, at a contract cost of \$5,205.54.

The greater part of the Scituate shore is now well protected from erosion by the sea, but more work will probably be needed in the near future at Second Cliff and northerly of the Sand Hills.

Amount expended for sea walls and other work of shore protection in Scituate during the year, \$17,326.96. Total expenditure to Dec. 1, 1932, \$401,623.43.

TAUNTON RIVER, IMPROVEMENT BY FEDERAL GOVERNMENT

The Federal Government during the year has continued the dredging under the project providing for a channel 12 feet deep in Taunton River from Fall River to Weir Village, Taunton. The removal of ledge was in progress at the end of the fiscal year, and a new contract is to be made soon for completing the channel.

Several surveys have been made and borings taken in connection with the turning basin to be provided at Weir Village under the provisions of Chapter 405 of 1930, in accordance with the requirements of the Federal project. No definite location for this basin has yet been determined.

Amount expended during the year, \$960.22. Total expenditure to Dec. 1, 1932, \$31,561.95.

WAQUOIT BAY, FALMOUTH AND MASHPEE

An inspection made in January of the inshore end of the jetty at the entrance to the bay found the timber work destroyed by fire and the beach washing away rapidly. To protect the breakwater a letter contract was made with John A. Davis for driving piles and placing concrete at the inshore end of the structure. This work was completed Mar. 14, 1932, at a contract cost of \$2,536.38.

During August an examination made of the jetty showed a continuing erosion so serious as to threaten the outlet channel. The immediate need appeared to be the extension of the jetty toward the shore in order to anchor the inshore end to the upland and the building of spur jetties at right angles to the shore in locations easterly of the breakwater.

On Aug. 30, 1932, a contract was made with Thomas Whalen and Sons, Inc., for the construction of about 100 linear feet of creosoted timber bulkhead, two creosoted timber jetties each about 25 feet long, and one creosoted timber jetty about 100 feet long on the easterly side of the entrance to Waquoit Bay, Mashpee. The contract prices for this work were: for each linear foot of creosoted yellow pine bulkhead furnished and driven in place, \$7.75; for each linear foot of creosoted yellow pine jetty, furnished and driven in place, \$7.75: This work was completed Nov. 28, 1932, at a contract cost of \$1,937.50.

The entrance to Waquoit Bay, after the completion of the work done this year, is reasonably safe, although the stone breakwater for a length of about 100 yards has settled to some extent. This is due to the deepening of the channel which has caused undermining of the stone and consequent shifting of material. The breakwater is not yet endangered but will need repairs during the coming year.

Amount expended during the year, \$4,759.38. Total expenditure to Dec. 1, 1932, \$98,073.78.

WEST CHOP, TISBURY

Hearing was held Feb. 24, 1932, upon a petition of the Selectmen of Tisbury for protective work at West Chop.

The best method for checking erosion at this beach appears to be the building of stone jetties projecting at right angles from sea walls already constructed. Toward the cost of these jetties a contribution of \$1,250 was made by the Town of Tisbury and of an equal amount by the property owners.

On Aug. 16, 1932, a contract was made with Joseph W. Nickerson for the construction of four stone jetties, at a contract price of \$4.19 per ton of 2000 pounds for furnishing and placing heavy stone riprap and granite chips in the jetties. This work is now in progress.

Amount expended during the year, \$3,721.75. Total expenditure to Dec. 1, 1932, \$3,721.75.

WESTPORT HARBOR, WESTPORT

The work of placing about 400 tons of stone riprap and chips in the stone jetty on the westerly side of the harbor, under contract of Nov. 3, 1931, with George W. Starbuck, was completed Dec. 17, 1931, at a contract cost of \$2,225.21.

While this work has put the jetty into good condition, the erosion of the shore northerly of the structure is washing material into the channel and causing shoaling. The most satisfactory way of checking this movement would be to build another short jetty to divert the current from the shore. This would probably help to remove some of the present shoaling as well as to arrest further deposit of material in the channel.

Amount expended during the year, \$2,431.19. Total expenditure to Dec. 1, 1932, \$21,928.88.

GREAT PONDS

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by chapter 318, Acts of 1888. This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was later given by chapter 379, Acts of 1904, now section 2, chapter 91, General Laws.

During the year the Department has considered matters relating to: Alum Pond, Sturbridge; Big Sandy Pond, Plymouth; Blackmore's Pond, Wareham; Blueberry Pond, Brewster; Crystal Lake, Newton; Dunham's Pond, Carver; Grass Pond, Harwich; Hallockville Pond, Hawley and Plainfield; Jordan Pond, Shrewsbury; Kendall Pond, Gardner; Lake George, Wales; Lake Mascuppig, Tyngsborough; Lake Nippinicket, Bridgewater; Lake Quinsigamond, Worcester and Shrewsbury; Lake Winthrop, Holliston; Laurel Lake, Lee and Lenox; Lea Mine Pond or Quassac Lake, Sturbridge; Monponsett Ponds, Halifax and Hanson; Musquashiat Pond, Scituate; Pentucket Pond, Georgetown; Round Pond, Plymouth; Silver Lake, Wilmington; Simon's Pond or Lake Marguerite, Sandisfield; South Pond, Barnstable; Spy Pond, Arlington; Tyng's Pond, Dracut; Upper Goose Pond, Lee and Tyringham.

Surveys were made this year of the following great ponds:

Lake Tashmoo, Tisbury

Area of natural pond at time of survey	268.5	acres
Maximum depth	10.7	feet

Pentucket Pond, Georgetown

Area of pond at time of survey	96.25	acres
Area of natural pond	51.98	acres
Maximum depth	34.0	feet

Black Pond, Taunton

Area of Pond at time of survey	12.48	acres
Area of natural pond	10.62	acres
Maximum depth	19.9	feet

Cranberry Pond, West Stockbridge

Area of natural pond at time of survey	10.36	acres
Maximum depth	22.7	feet

Pine Pond, Brewster

Area of natural pond at time of survey	24.48	acres
Maximum depth	22.4	feet

Slough Pond, Brewster

Area of natural pond at time of survey	33.12	acres
Maximum depth	22.9	feet

Walker Pond, Brewster

Area of pond at time of survey	101.76	acres
Maximum depth	9.9	feet

Sam Hall Pond, Brewster

Area of natural pond at time of survey	13.54	acres
Maximum depth	15.6	feet

Faun Pond, Plymouth

Area of natural pond at time of survey	46.63	acres
Depth of Pond	Not determined	

Tyngs Pond or Muscuppic Lake, Dracut and Tyngsborough

Area of pond at time of survey	222.09	acres
Area of natural pond	206.17	acres

Area of the natural pond is divided between the two towns as follows:

Dracut	10.26	acres
Tyngsborough	195.91	acres
Maximum depth	28.5	feet

Hampton Pond, Southampton and Westfield

Area of pond at time of survey	158.18	acres
Area of natural pond	140.84	acres
Area of Pequot Island in pond	0.61	acres

Area of the natural pond is divided between the two towns as follows:

Southampton	51.92	acres
Westfield	88.92	acres
Maximum depth	31.4	feet

Horse Pond, Westfield

Area of pond at time of survey	29.63	acres
Area of natural pond	23.02	acres
Maximum depth	10.6	feet

Buck Pond, Westfield

Area of natural pond at time of survey	23.48	acres
Maximum depth	22.3	feet

Forrest Lake, Palmer

Area of pond at time of survey	56.37 acres
Area of natural pond	41.33 acres
Maximum depth	31.4 feet

Pattaquattic Pond, Palmer

Area of natural pond at time of survey	20.43 acres
Maximum depth	25.5 feet

Kendall Pond, Gardner

Area of natural pond at time of survey	23.13 acres
Maximum depth	39.3 feet

ACCESS TO GREAT PONDS

During the year two petitions relative to access to great ponds have been received under the provisions of Chapter 453 of the Acts of 1923.

Public hearing before the joint board was held Jan. 20, 1932, upon a petition of ten citizens of the Commonwealth for the establishment of a right of way to Lake George or Wales Pond, in the town of Wales. A special report to the Legislature was made in December, 1932, stating:

"Upon consideration of all the evidence, the Board finds that, as both the State Highway and the Town way are adjacent to the shores of the pond at different locations, public convenience and necessity do not appear to require the establishment of a right of way for public access to Lake George."

On Mar. 3, 1932, the Board made a special report to the Legislature relative to the establishment of a right of way to Simon's Pond or Lake Marguerite in the town of Sandisfield. The report concludes:

"Upon consideration of all the evidence the Board finds that it appears that no right of way for public access to this pond exists and that public convenience and necessity do not require that such right of way be established."

A petition by ten citizens of the Commonwealth for the establishment of a right of way to Jordan Pond in the town of Shrewsbury, was presented to the Department on Nov. 10, 1932. A date for public hearing has been assigned but no further action taken.

PROVINCE LANDS

The territory belonging to the Commonwealth known as the Province Lands at Provincetown comprises about 3,810 acres lying northerly and westerly of a line described in chapter 470, Acts of 1893. By the terms of this act the Board of Harbor and Land Commissioners was given general care and supervision of this area.

Reclamation work under the direction of a superintendent has been carried on since 1894. To check the movement of the sand, the barren dunes are first covered with brush or planted with beach grass. The grass is pulled in bunches about two inches thick and transplanted in rows about 4 feet apart and 6 inches deep. The transplanted grass lives between three and four years. This work is followed and reinforced by the transplanting of trees and shrubs.

During the year work on these lands has been continued in accordance with these methods. Ten acres of sand dunes have been covered with brush; 15,000 native pines on the sod have been transplanted and 400,000 seedlings of Scotch and Austrian pines planted. About one acre of bayberry has been planted.

The sum of \$196.15 has been paid into the State Treasury during the year from licenses issued for cultivating and picking cranberries on the bogs and for mowing meadows and from permits for occupying areas on these lands.

Amount expended during the year, \$4,698.79. Total expenditure to Dec. 1, 1932, \$161,934.58.

STATE BOUNDARY LINES

During the year bound No. 37 on the Massachusetts-Rhode Island line was removed on account of new highway construction and a new bound No. 37 was reset 35.8 ft. east of the location of the old bound.

TOWN BOUNDARY LINES

During the year nine triangulation stations were established to redefine a portion of the Hamilton-Wenham town line.

CONSERVING AND EQUALIZING THE FLOW OF WATER IN RIVERS AND STREAMS

By Chapter 359, Acts of 1909, chapter 564, Acts of 1912, and chapter 84, Resolves of 1917, co-operation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, so that results of work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by the said survey have been obtained for use by the Department and are available for other Departments of the Commonwealth. Toward the cost of this work the Department has paid during the year, \$4,000.

RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS

By section 33, chapter 91, General Laws, the Department is authorized to make such surveys and to do such other work as may be required by an order of the Land Court, to re-establish and permanently mark certain triangulation points and stations previously established in connection with the topographical survey of the Commonwealth, and the town boundary survey, which have been lost or destroyed and to obtain the geographical position of such new points and stations as may be required from time to time by the Court.

During the year the locations of the following triangulation stations were determined and permanently marked on the ground and the geographical positions furnished to the Land Court:

- 26 Stations in Nantucket
- 4 Stations in Yarmouth
- 5 Stations in Harwich
- 8 Stations in Barnstable

Amount expended during the year, \$990.40.

LICENSES AND PERMITS

During the year 69 licenses were granted for work to be done in tide waters, great ponds, Connecticut River and Merrimack River and 114 permits for miscellaneous purposes. The Department also approved 65 permits granted by cities and towns for the construction and maintenance of fish weirs in tide water.

EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR, 1859 - 1932, INCLUSIVE

<i>Payments</i>	<i>To Nov. 30, 1931</i>	<i>1932</i>	<i>Total</i>
Boston Harbor	\$1,518,899 47 ¹		
Streets Piers and Railroads		\$84 67	
Maintenance of Property		457 33	
Dredging and filling		30,835 24	
Special appropriation		64,932 46	\$1,615,209 17
Commonwealth Flats, East Boston	3,093,326 83 ²	—	3,093,326 83

¹ Contribution by Quincy Market Cold Storage and Warehouse Corporation in 1921 \$4,000 00

By Bethlehem Ship Building Corporation in 1930 10,000 00

² Appropriated by City of Boston in 1926 10,000 00

EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT — <i>Continued</i>			
<i>Payments</i>	<i>To Nov. 30, 1931</i>	<i>1932</i>	<i>Total</i>
Commonwealth Flats, South			
Boston	4,892,123 69	—	4,892,123 69
Castle Island	740,353 71		
Dredging and filling		1,706 20	
Streets piers and railroads		145 00	742,204 91
Commonwealth Pier No. 5,			
South Boston:			
Construction	4,014,790 45	—	4,014,790 45
Maintenance	614,542 54	72,968 82	687,511 36
Dredging	22,050 36	—	22,050 36
Operation and Supervision	1,536,248 59	121,693 72	1,657,942 31
Commonwealth Pier No. 1,			
East Boston:			
Construction	1,199,703 23	—	1,199,703 23
Operation and supervision	112,425 89	7,821 80	120,247 69
Maintenance	15,547 05	4,370 10	19,917 15
Commonwealth Pier No. 6,			
South Boston:			
Construction	1,092,149 06	—	1,092,149 06
Maintenance	51,937 90	—	51,937 90
Dry Dock	3,169,651 15 ³	—	3,169,651 15
Hayward Creek	385,979 61 ⁴	—	385,979 61
Mystic River	428,897 17 ⁵	735 78	429,632 95
Malden River	32,268 70 ⁶	535 84	32,804 54
Chelsea Creek	60,561 88	—	60,561 88
Commercial Point, Dorchester			
Bay	53,213 10	—	53,213 10
Maintenance of Property of			
Commonwealth (in addition			
to maintenance items			
listed above)	344,805 04	19,339 76	364,144 80
	<u>\$23,379,475 42</u>	<u>\$325,626 72</u>	<u>\$23,705,102 14</u>

³ Additional amount paid by State Treasurer from Development of the Port of Boston Loan Sinking Fund in settlement of claims 17,877 73

⁴ Contributions by Massachusetts Oil Refining Company and Bethlehem Ship Building Corporation 38,600 00

Paid by State Treasurer for land taking 3,725 27

⁵ Contribution by Merrimac Chemical Company 15,000 00

 in 1920 4,182 50

 in 1922 50,000 00

Contribution by Beacon Oil Company in 1920 31,000 00

⁶ Expended by United States Government 600 00

Contribution by Standard Oil Company of New York in 1922

EXPENDITURES AND CONTRIBUTIONS FOR IMPROVEMENT OF SMALL HARBORS AND CHANNELS WITHIN BOSTON HARBOR, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS, FROM 1893 TO 1932, INCLUSIVE

<i>Locality and Character of Works</i>	Contributions by		Total Expenditure
	Municipality	or Others	
Cottage Park Channel, Winthrop, dredging	\$6,250 00		\$37,967 29
Dorchester, easterly shore, dredging and survey		1,000 00	210,742 60
Harbor View, dredging	—		146 00
Hingham Harbor, dredging	6,500 00		41,595 12
Houghs Neck, Quincy, dredging	7,500 00		46,088 31
Island End River, Everett, survey	—		264 10
Jeffries Point Channel, dredging			4,563 93
Mystic River (near Lawrence and Wiggins Wharf) dredging	—		5,927 70

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Location and Character of Work</i>	Contribution by	
	Municipality or Others	Total Expenditure
Neponset River, dredging	10,000 00	109,392 28
Old Harbor Cove, dredging	—	10,520 48
Orient Heights Channel, dredging	—	45,412 38
Pemberton Point, Hull breakwater	60,000 00	90,520 98
Pleasant Park Yacht Club Channel dredging	3,000 00	16,029 96
Point Allerton, Hull, sea wall	50,000 00	75,127 05
Point Shirley, Winthrop	—	3,713 37
Quincy Bay, dredging	7,150 00	71,807 56
Shirley Gut, Boston and Winthrop, dredging	—	2,110 96
South Boston, Southerly Shore, dredging	—	129,542 08
Stony Beach, Hull, sea wall	—	12,326 09
Town River, Quincy, survey and dredging	16,050 00	57,663 25
Weir River, Hull, dredging	45,000 00	205,336 48
Wessagussett Channel, dredging	—	815 20
Weymouth Fore River, dredging	8,250 00	70,077 49
Winthrop Harbor Channels, dredging	17,192 00	73,984 22
	<hr/>	<hr/>
	\$237,892 00	\$1,321,674 88

EXPENDITURES AND CONTRIBUTIONS FOR RIVER AND HARBOR WORK FROM
DECEMBER 1, 1931, TO NOVEMBER 30, 1932

<i>Location and Character of Work</i>	Contributions	Expenditures
Acushnet River, survey	—	\$18 00
Allens Harbor, Harwich, timber fence, rip- rap and jetties	—	3,910 84
Barnstable Harbor, Barnstable, dredging	\$1,000 00	
Brant Rock, Marshfield, sea walls and riprap	—	84,547 84
Cape Cod Canal Pier, Bourne, construction	—	170,893 32
Cape Poge, Edgartown, survey	—	133 05
Centerville River, Barnstable, removing stumps	—	236 25
Chatham, survey	—	852 62
Cohasset Harbor, Cohasset, dredging	—	2,756 16
Cuttyhunk Harbor, survey	—	334 67
Falmouth (Menauhant Shore), jetties bulkheads and riprap	3,100 00	6,075 33
Geological Survey Trust Fund	2,520 00	290 10
Great Ponds, survey	—	6,992 79
Green Harbor, Marshfield, dredging	—	6,956 21
Gun Rock Point, Hull, jetties and sea wall repairs	—	618 79
Harwich Shore, near Chatham Line, stone jetty	350 00	1,206 75
Herring River, Harwich, stone jetty and surveys	—	645 01
Hyannis Harbor, Barnstable, bulkhead and dredging	21,750 00	11,247 56
Improvement of Rivers and Harbors, gen- eral expenses	—	8,405 07
Lagoon Pond, Tisbury and Oak Bluffs, dredging and stone jetty	13,500 00	16,166 29
Lake Anthony, Oak Bluffs	500 00	
Lake Tashmoo, Tisbury, survey	—	30 64
Long Beach, Rockport, concrete sea wall	—	9,390 57
Manchester Harbor, Manchester, survey	—	13 55
Menamsha Creek, Chilmark, riprap and fill	—	13,146 27

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Location and Character of Work</i>	Contributions	Expenditures
New Bedford State Pier, Operation and Maintenance	—	10,828 29
New Bedford State Pier, Construction and Alterations	—	13,647 79
Oak Bluffs, sea wall repairs	—	21 80
Plymouth Harbor, survey	—	38 10
Plymouth State Property, maintenance	—	4,248 44
Province Lands, Provincetown, reclamation	—	4,698 79
Salisbury Beach, survey	—	1,667 16
Saugus River, Lynn and Saugus, survey	—	2,096 01
Scituate shore protection:		
First and Second Cliffs, Scituate, riprap	—	5,424 81
North Scituate, Surfside, sea wall and jetties	—	1,602 23
Sand Hills, Scituate, sea walls, jetties and concrete ramp	—	5,124 26
Humarock Beach, Scituate, sea wall and jetties	—	3,772 79
Third Cliff, Scituate, riprap	—	1,402 87
Scituate Harbor, Scituate, survey	—	146 00
South Harwich, stone jetty	2,500 00	3,701 31
Swampscott, survey	—	103 46
Taunton River, survey	—	960 22
Waquoit Bay, Falmouth, timber bulkhead and jetties	—	4 759 38
Warrens Cove, Plymouth, survey	—	192 49
Water Conservation	—	4,000 00
West Chop, Tisbury, stone jetties	2,500 00	3,721 75
West Harwich, Harwich, stone jetties	—	5,030 29
Westport Harbor, Westport, jetty repairs	—	2,431 19
Winthrop Shore, Withrop, survey	—	24 52
Witchmere Harbor, Harwich, survey	—	135 67
	<u>\$47,720 00</u>	<u>\$424,647 30</u>

EXPENDITURES AND CONTRIBUTIONS FROM 1893 TO 1932, INCLUSIVE,
FOR RIVER AND HARBOR WORK, UNDER THE DIRECTION OF THE
DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS
(EXCEPTING BOSTON HARBOR)

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Acushnet River, inspection and dredging	—	\$119,810 10
Allens Harbor, Harwich, shore protection dredging, riprap and jetties	\$12,427 50	38,707 80
Allens Pond, Dartmouth, survey	—	195 95
Angle Tree Monument, reservation	—	1,306 22
Annisquam River, Gloucester, dredging, removing ledges and riprap	13,250 00	171,498 69
Apponagansett Harbor and River, Dartmouth, survey, dredging and stone breakwater	—	55,786 05
Barnstable Harbor, Barnstable, dredging	7,500 00	30,693 16
Bass River, Beverly, dredging	55,535 75	81,075 56
Bass River, Dennis and Yarmouth, jetties dredging and survey	22,595 00	182,413 47
Beach Street, Scituate — See Scituate		
Beverly Harbor, Beverly, dredging	—	50,000 00 ¹
Brant Rock, Marshfield, shore protection	111,503 66	214 973 29

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Brewster, Skaket Inlet, survey	—	617 19
Bucks Creek, Chatham, jetties, survey and dredging	2,500 00	39,719 69
Buzzards Bay, Falmouth, survey	—	166 11
Cape Cod Canal Pier, Bourne	—	170,893 32
Cape Poge, Edgartown, cut through beach, jetties and riprap	16,500 00	42,690 09
Cataumet Harbor — See Megansett Harbor		
Cedar Point, Scituate — See Scituate		
Centerville River, Barnstable, dredging	19,711 50	44,329 77
Chatham, riprap and surveys	10,500 00	20,665 81
Cohasset Harbor, Cohasset, breakwater and dredging	42,691 88	116,191 93
Concord River, Billerica, removing boulders	150 00	1,664 59
Connecticut River, investigation of navigation and surveys	—	8,878 96
Connecticut River, Agawam protective work	—	18,814 42
Connecticut River, Chicopee, survey, wall and riprap	640 00	25,789 02
Connecticut River, Hadley protective work, diversion wall and survey	5,000 00	118,740 95 ²
Connecticut River, Hatfield, dikes and riprap	1,000 00	51,238 61
Connecticut River, Holyoke, dredging and protective work	1,991 29	9,253 27
Connecticut River, Holyoke, marking and lighting old piers	—	1,195 32
Connecticut River, Northampton, protective work	—	1,524 20
Connecticut River, Northfield, riprap	—	9,028 90
Connecticut River, South Hadley, wall	1,000 00	7,379 58
Connecticut River, Springfield, and West Springfield, protective work	—	12,510 08 ³
Conservation of Waters, investigation	—	80,764 54
Cotuit Harbor, Barnstable, dredging, survey and bulkhead repairs	13,183 38	83,243 85
Cuttyhunk Harbor, Gosnold, jetties and dredging	9,000 00	71,088 85
Deacons Pond Harbor — See Falmouth Inner Harbor		
Duxbury Bay and Harbor, dredging	27,000 00	92,653 35
East Bay, Osterville, jetties, dredging and removing scows	10,000 00	70,924 23
Edgartown Harbor, Edgartown, survey and cut in beach	300 00	3,496 64
Ellisville Harbor, Plymouth, dredging and jetty repairs	—	20,174 18
Essex County Beaches, survey	—	1,000 00
Essex River, Essex, dredging	—	76,304 33 ⁴
Fall River Harbor, improvement	—	1,130 18
Falmouth Heights, Falmouth, sea wall and riprap	22,210 04	70,667 71

¹ Expended by United States Government.² From 1888 inclusive.³ From 1891 inclusive.⁴ \$5,000.00 expended by U. S. Government.

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Falmouth Inner Harbor, dredging, jetties, wall and riprap	31,500 00	150,396 26
Falmouth, Menauhant Shore, bulkheads, jetties and riprap	3,100 00	6,075 33
First and Second Cliffs, Scituate — See Scituate		
Fresh Water Cove, Gloucester, dredging	3,300 00	17,477 53
Gay Head, survey	—	555 42
Geological Survey Trust Fund	2,520 00	290 10
Glades, North Scituate, See Scituate		
Gloucester Fish Pier	—	396 91
Gloucester, Western Avenue, sea wall	35,000 00	60,000 00.
Gloucester Harbor, Gloucester, dredging and removing ledges	15,000 00	148,786 71
Great Head, Winthrop — See Winthrop Shore		
Great Ponds, survey	—	25,333 34
Green Harbor, Marshfield, jetties, dredg- ing and survey	42,500 00	165,469 37
Gun Rock Point, Hull, breakwater and sea wall repairs	16,135 41	78,877 92
Harbor Cove, Gloucester, survey and dredg- ing	3,866 00	25,155 04
Harwich Shore, near Chatham Line, stone jetty	350 00	1,206 75
Herring Creek, Scituate, survey	—	253 76
Herring River, Harwich, jetties, dredging and riprap	36,100 00	132,029 97
Herring River, Wellfleet, dikes and ditches	10,000 00	34,509 38
Hoosac River, North Adams, excavation and survey	—	21,271 67
Housatonic River, Sheffield, survey	—	2,011 29
Hull, sea wall and jetties	8,882 06	38,485 08
Humarock Beach, Scituate — See Scituate		
Hyannis Harbor, bulkhead and dredging	21,750 00	11,247 56
Hyannisport, Barnstable, survey and breakwater	2,500 00	65,017 76
Improvement of Rivers and Harbors, gen- eral expenses	—	47,920 59
Ipswich River, Ipswich, jetty, wall, riprap and dredging	3,800 00	59,079 55
Kings Beach, Swampscott, removal of ob- struction	—	166 41
Lagoon Pond, Tisbury and Oak Bluffs dredging and jetty	13,500 00	16,476 04
Lake Anthony, Oak Bluffs, jetties and dredging	15,500 00	97,411 51
Lake Quannapowitt, Wakefield, investiga- tion	—	345 32
Lake Tashmoo, Tisbury, survey	—	432 88
Lewis Bay, Barnstable, survey and dredg- ing	18,809 29	66,804 73
Little Harbor, Cohasset, survey	500 00	1,476 77
Little Harbor, Marblehead, dredging	2,500 00	11,166 16
Little River, Gloucester, survey	—	862 93
Lobster Cove, Gloucester, dredging	4,500 00	61,603 36
Long Beach, Rockport, sea wall	26,000 00	52,516 31
Lynn Harbor, Lynn, anchorage basin, sur- vey and dredging	5,200 00	121,609 22

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Lynn Harbor and Saugus River, dredging and filling	37,500 00	163,431 53
Manchester Harbor, Manchester, survey, jetties and dredging	83,000 00	189,707 59
Mattapoisett Harbor, survey	—	255 48
Megansett Harbor, Bourne & Falmouth, dredging	12,730 00	52,116 66
Menamsha Inlet, Chilmark and Gay Head, jetties, dredging, sea wall and riprap	2,700 00	130,243 43
Merrimack River, investigation	—	1,208 50
Mill River, Gloucester, survey and dredging	300 00	24,899 59
Mitchells River, Chatham, survey and dredging	6,000 00	23,113 92
Monument Beach, Bourne, survey	—	326 40
Nahant, survey	—	82 15
Namequoit River and Pleasant Bay, dredging	5,500 00	28,529 62
Nantucket, survey of Sesachacha Pond	—	110 66
Nantucket Harbor, dredging	5,000 00	58,982 52
Nauset Harbor and Town Cove, Orleans, dredging	2,000 00	10,671 24
New Bedford Harbor, dredging	—	18,856 57
New Bedford State Pier, pier shed and dredging	13,446 74* 5	550,419 42
New Bedford State Pier, operation and maintenance	—	68,107 40
Newburyport Harbor, survey	—	115 97
Nobscusset Harbor, Dennis, breakwater, dredging and riprap	1,950 00	41,385 22
North River, Marshfield, survey and removing rocks	1,800 00	8,658 75
North River, Salem, survey	—	704 52
North Scituate—See Scituate		
Oak Bluffs, removing rocks	—	594 95
Oak Bluffs, sea walls, bulkhead and jetties	52,500 00	141,099 57
Ocean Grove, Swansea, survey	—	143 23
Onset Bay, Wareham, survey and dredging	1,000 00	15,295 89
Orleans, survey	—	104 18
Palmers Pond, Falmouth, survey	—	358 76
Pamet River, Truro, survey, dredging and repairing jetties	1,200 00	198,010 32
Paskamansett River, Dartmouth, dredging and jetty	—	5,227 68
Penikese Island, Gosnold, pile wharf and survey	—	5,192 95
Pines River, Revere and Saugus, survey	—	904 80
Pleasant Bay, Chatham, dredging	600 00	2,364 33
Plum Island River, Newbury and Newburyport, survey	—	983 31
Plymouth Harbor, dredging and removing old piling	92,794 55* 6	324,565 02
Plymouth Memorial Park, maintenance	—	44,649 41
Point Shirley, Winthrop — See Winthrop Shore		

* Paid by Surety Company.

* \$57,000.00 expended under direction of U. S. Government.

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Poponessett Bay, Barnstable and Mashpee, dredging	—	46,252 33
Powow River, Amesbury, dredging channel and riprapping wall	—	502 94
Province Lands, Provincetown, reclamation	—	161,934 58
Provincetown Harbor, shore protection	75 00	28,730 81
Quamisset Harbor, Falmouth, survey	—	710 31
Quansett Harbor, Orleans, survey and dredging	500 00	2,194 50
Red Brook Harbor, Bourne, removing pier	—	275 00
Revere, stone breakwater	—	60,397 93
Rock Harbor, Orleans, dredging	2,400 00	20,832 51
Rockport Harbor, Rockport, dredging and removing rocks	4,750 00	32,897 46
Salem Harbor, Salem, survey	—	1,509 92
Salisbury Beach, survey	—	3,064 22
Salt Pond River, Eastham, survey	—	210 11
Salters Point, Dartmouth, breakwater	4,500 00	42,939 57
Sand Hills, Scituate—See Scituate		
Sandwich Harbor, Sandwich, dredging channel, riprap and jetties	—	80,579 84
Saugus River, Lynn & Saugus, survey and dredging	2,000 00	22,941 18
Scituate, shore protection	37,500 00	
Beach Street, Scituate, wall and break- water	17,333 52	34,782 50
Cedar Point wall and breakwater	21,446 64	41,298 70
First & Second Cliffs, Scituate, wall and riprap	2,797 92	19,473 77
Glades, North Scituate, filling and riprap	13,250 78	30,737 96
Humarock Beach, Scituate, survey, wall and jetties	37,816 38	83,545 51
North Scituate, Surfside, spur (and) jetties	2,194 68	29,831 42
Sand Hills, Scituate, wall and jetties	4,511 26	33,792 06
Third Cliff, Scituate, riprap and survey	75,193 10	127,778 27
General surveys at Scituate	—	383 24
Scituate Harbor, dredging and surveys	53,300 00	206,011 94
Scorton Harbor, Sandwich, jetty and dredging	500 00	17,774 34
Seapuit River, Barnstable, dredging	13,000 00	25,088 55
Sesuit Harbor, Dennis, jetty	1,500 00	24,555 10
Shirley Gut, survey	—	97 05
Sippican Harbor, Marion, survey	—	615 66
Smith's Cove, Gloucester, survey and dredging	3,875 00	13,466 16
South Harwich, stone jetties and riprap	2,500 00	3,701 31
South River, Marshfield and Scituate, sur- vey	—	724 85
South River, Salem, dredging	3,000 00	13,462 66
South Watuppa Pond, Fall River, fenders and excavation	—	203 42
Stage Harbor, Chatham, dikes and survey	—	10,803 01
Swampscott, survey	—	103 46
Taunton, Brockton waterway, investigation	—	5,278 18
Taunton River, survey and dredging	42,500 00	31,561 95
Taunton River, Boston Harbor Canal, sur- vey	—	9,932 75

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Third Cliff Scituate—See Scituate		
Taunton River, Massachusetts Bay Canal, survey	—	11,786 71
Vineyard Haven Harbor, repairing sea wall	2,380 50	11,945 01
Vineyard Haven Harbor, Tisbury, break- water and dredging	1,000 00	45,518 25
Waquoit Bay, Falmouth, Breakwater, wall bulkheads and dredging	17,500 00	98,073 78
Wareham River, Wareham, survey and dredging	5,000 00	42,567 93
Warrens Cove, Plymouth, sea wall and sur- vey	9,713 98	25,292 35
Watch Hill, Chatham, survey and riprap	—	14,968 75
Water Conservation—See Conservation of Water		
Wellfleet Harbor, Wellfleet, survey and dredging	1,500 00	17,600 29
West Bay, Barnstable and Osterville dredg- ing, jetties and riprap	16,128 07	114,517 57
West Chop, Tisbury, stone jetties	2,500 00	3,721 75
West Falmouth Harbor, Falmouth, sur- veys, dredging and breakwater	11,473 75	63,520 95
West Harwich, shore protection	6,000 00	25,843 59
Westfield River, Westfield, survey and jetties	—	6,037 29
Westport Harbor, Westport, jetty exten- sion and repairs	—	21,928 88
Wild Harbor, Falmouth, jetty and dredging	15,000 00	55,128 66
Winthrop Shore, Winthrop, sea walls and protective work	40,500 00	97,582 04
Witchmere Harbor, Harwich, jetties and dredging	3,500 00	63,551 21
Woods Hole, Great Harbor, Falmouth, dredging	1,500 00	6,968 86
Wrecks, removal from tide water	—	20,283 69
Yarmouthport Harbor, survey	7,000 00	95,977 37
Totals	1,536,164 63	7,967,132 39

FEDERAL APPROPRIATIONS AND EXPENDITURES

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the close of the fiscal year ending June 30, 1932, are shown in the following tables furnished the Chief of Engineers, U. S. Army:—

TABLE NO. 1.—*Localities at Present under Improvement*
(Compiled from the Annual Report of the Chief of Engineers, U. S. Army,
for the fiscal year ending June 30, 1932.)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Newburyport Harbor	\$500,900 00	\$500,900 00
Gloucester Harbor	545,575 63	548,183 00
Beverly Harbor	246,690 41	246,690 41 ¹
Salem Harbor	107,956 57	107,956 57
Lynn Harbor	585,007 91	646,937 00
Mystic River	306,684 84	306,684 84
Boston Harbor	13,489,955 55	13,527,362 58
Dorchester Bay and Neponset River	128,176 44	128,176 44
Weymouth Fore River	641,150 00	641,150 00 ²
Weymouth Back River	27,000 00	27,000 00
Scituate Harbor	126,590 98	126,590 98
Plymouth Harbor	421,184 84	421,184 80 ³
Cape Cod Canal	12,148,541 47	12,187,555 45
Operating and Care, Cape Cod Canal	1,070,477 21	1,089,000 00
Provincetown Harbor	348,062 72	348,062 72
Pollock Rip Shoals	1,328,416 26	1,331,402 01
Cross Rip Shoals, Nantucket Sound	25,507 31	27,000 00
Harbor of Refuge at Nantucket	694,582 83	694,582 83
New Bedford and Fairhaven Harbor	1,229,413 90	1,232,546 85
Fall River Harbor	681,863 01	689,614 47
Taunton River	273,989 37	314,329 19
	<hr/>	<hr/>
	\$34,927,727 21	\$35,142,910 14

TABLE NO. 2.—*Localities in Which Work is Not Now in Progress*
(Compiled from data furnished by the United States Treasury
Department and the Chief of Engineers, U. S. Army)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Merrimack River	\$404,466 72	\$404,466 72
Malden River	149,950 00	149,950 00 ⁴
Sandy Bay, Cape Ann, Harbor of Refuge	1,941,478 00	1,941,478 00
Bass River	20,150 34	20,150 41
Buzzard's Bay Harbor	2,500 00	2,500 00
Canapitset Channel	5,312 54	9,800 00
Chatham Harbor	12,171 36	13,732 79
Cohasset Harbor	10,000 00	10,000 00
Duxbury Harbor	37,000 00	37,000 00
East Dennis Breakwater	7 57	1,500 00
Edgartown Harbor	25,000 00	25,000 00
Essex River	30,000 00	30,000 00
Hingham Harbor	38,316 58	39,000 00
Hyannis Harbor	221,267 07	221,267 07
Ipswich River	5,617 91	7,500 00
Kingston Harbor	8,940 09	10,000 00
Little Harbor, Woods Hole	18,000 00	18,000 00
Manchester Harbor	23,985 57	24,300 00
Marblehead Harbor	833 43	1,900 00
Martha's Vineyard Harbor	7,000 00	7,000 00
Powow River	50,940 72	51,000 00
Rockport Harbor	91,229 25	91,232 57
Town River	37,577 41	37,577 41
Vineyard Haven Harbor	55,387 35	60,000 00
Wareham Harbor	95,997 30	96,236 00
Wellfleet Harbor	11,365 57	16,000 00

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Westport Harbor and River	3,000 00	3,000 00
Winthrop Harbor	9,000 00	9,000 00
Woods Hole Channel	343,599 92	344,000 00
Total	<u>\$3,660,094 69</u>	<u>\$3,682,590 97</u>

RECAPITULATION

	<i>Expenditures</i>	<i>Appropriations</i>
Total of Table No. 1.	\$34,927,727 21	\$35,142,910 14
Total of Table No. 2.	3,660,094 69	3,682,590 97
	<u>\$38,587,821 90</u>	<u>\$38,825,501 11</u>

¹ Exclusive of \$100,000 contributed funds.² Exclusive of \$100,000 contributed funds.³ Exclusive of \$108,400 contributed funds.⁴ Exclusive of \$62,000 contributed funds.

EXPENDITURES ON BOSTON HARBOR AND ITS TRIBUTARIES TO JUNE 30, 1932

(The tributaries given are those now under improvement and do not include tributaries heretofore improved.)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Boston Harbor proper ¹	\$13,489,955 55	\$13,527,362 58
Mystic River	306,684 84	306,684 84
	<u>\$13,796,640 39</u>	<u>\$13,834,047 42</u>

¹ Including Chelsea Creek.

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
269	Lagoon Pond, Oak Bluffs and Tisbury,—dredging and jetty . . .	Merritt-Chapman & Scott Corporation	Aug. 23, 1932
288	Third Cliff, Scituate,—riprap . . .	John P. Cavanagh	Aug. 25, 1931
290	Marshfield,—sea wall at Fieldston . . .	Louis B. Cadario and Sons	Sept. 15, 1931
291	Brant Rock, Marshfield,—riprap . . .	Raymond A. Bergesson	Sept. 15, 1931
295	Commonwealth Pier 1,—East Boston . . .	Michael Solimando	Oct. 27, 1931
296	Westport Harbor,—repairs to stone jetty	George W. Starbuck	Nov. 3, 1931
297	Scituate Sea Walls, Sand Hills and Scituate Harbor	Thomas Joseph McCue	Oct. 27, 1931
298	Menamsha Inlet, Chilmark and Gay Head,—protective work	Merritt-Chapman & Scott Corporation	Nov. 3, 1931
299	Hull,—sea walls at Stony Beach and Pemberton,—repairs and rebuilding	Bradford Weston	Nov. 10, 1931
300	Winthrop Harbor,—removal of boulders from basin of Winthrop Yacht Club	Trimount Dredging Company	Nov. 10, 1931

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1932

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1932	Total paid to Nov. 30, 1932	Estimated Amount of Contract
In progress	For dredging and disposing of dredged material on marsh and flats by hydraulic process, including the construction of necessary dikes and sluices, 35 cents for each cubic yard measured in place. For removing and disposing of all boulders \$25 for each cubic yard. For each ton of riprap or stone chips furnished and placed in completed work, \$3.23.	\$15,117 38	15,117 38	\$23,770 —
Completed Dec. 28, 1931	For furnishing each ton of stone riprap and depositing it in place, including all cleaning up and incidental work, \$2.24.	1,361 46	5,205 54	4,480 —
Completed Dec. 23, 1931	For furnishing materials and constructing concrete sea wall and jetties, \$7.48 per cubic yard of concrete measured in completed work. For furnishing materials and constructing concrete apron and wing walls, the lump sum of \$1,250 for completed work. For furnishing and placing heavy stone riprap, \$3 per ton of 2,000 pounds in place in completed work.	22,264 28	83,706 24	69,894 —
Completed Jan. 29, 1932	For each ton of riprap and chips furnished and placed in completed work, including removal of remains of old timber bulkheads, storing of material and other incidental work, \$2.00	17,995 75	29,096 75	14,000 —
Completed Jan. 15, 1932	Unit prices.	2,714 92	2,714 92	2,705 40
Completed Dec. 17, 1931	For each ton of riprap or stone chips furnished and placed in completed work, \$5.40.	2,225 21	2,225 21	2,160 —
Completed Dec. 19, 1931	For furnishing material and constructing concrete top, face, footing and jetties, \$8.70 for each cubic yard of concrete measured in completed work. For furnishing $\frac{3}{4}$ " twisted steel reinforcing rods, 4 cents per pound.	3,053 29	8,455 01	8,050 —
Completed Feb. 26, 1932	For furnishing material and constructing and repairing light wall, \$8.70 for each cubic yard of concrete measured in completed work. For each ton of riprap or stone chips furnished and placed in the completed work, \$4.19. For furnishing and placing 340 cubic yards of filling, the lump sum of \$300.	12,777 82	12,777 82	12,451 —
Completed Jan. 18, 1932	For furnishing all labor and materials and constructing new concrete sea wall, \$10 for each cubic yard of concrete measured in completed work. For furnishing labor and materials and constructing concrete footings under and in front of existing walls, \$12 for each cubic yard of concrete measured in the completed work.	2,929 94	2,929 94	2,290 —
Completed Mar. 30, 1932	For towing equipment and crew to site of work and returning after completion of work, the lump sum of \$95. For rental of floating plant and all necessary equipment including crew and all incidental expenses \$89 for each day of eight hours the equipment is used on the work.	946 —	946 —	829 —

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
301	Allens Harbor, Harwich,—timber fence and riprap .	George W. Starbuck	Nov. 24, 1931
302	Marshfield,—concrete sea wall and riprap south of Brant Rock .	Philip B. Oakman	Dec. 1, 1931
303	Commonwealth Pier 5, South Boston,—installation of oil burning equipment in heating plant .	Buckley & Scott Utilities, Inc. .	Dec. 1, 1931
304	Removal of hulk of SS "Coyote" from tide water at Apple Island, Boston .	Blakeslee Rollins Corporation .	Dec. 2, 1931
305	Commonwealth Pier 5, movable gangway	New England Structural Company .	Dec. 15, 1931
306	West Harwich Shore,—stone jetties	Joseph W. Nickerson	Dec. 15, 1931
307	Scituate Harbor,—removal of wreck	John J. Johnson	Apr. 12, 1932
308	Removal of hulks adjacent to Border and Condor Sts., East Boston	New England Maintenance Co., Inc.	Dec. 29, 1931
309	Removal of hulks from property of Frederick H. Viaux, Condor St., East Boston	A. A. Hersey & Son Company .	Feb. 12, 1932
310	Removal of hulks from property of Jessie D. Wright, Condor St., East Boston	Merritt-Chapman & Scott Corporation	Feb. 9, 1932
311	New Bedford State Pier, floating fender logs .	Frank C. Taylor	Mar. 8, 1932
312	Cape Cod Canal, Bourne,—construction landing pier and dredging .	Merritt-Chapman & Scott Corporation	Apr. 26, 1932
313	Removal of hulks from property of Boston Port Development Co., at Jeffries Point, East Boston .	New England Maintenance Co., Inc.	Mar. 15, 1932

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1932

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1932	Total paid to Nov. 30, 1932	Estimated Amount of Contract
Completed Jan. 19, 1932	For each hour worked by diver and tender, including equipment, \$5 for each hour employed on the work.			
	For each linear foot of fence measured in place, including the furnishing of labor and materials and the performance of all excavation, back-filling and incidental work, the sum of \$7.75.	1,792 05	1,792 05	1,366 05
Completed May 14, 1932	For each ton of riprap furnished and placed, including all grading and incidental work, \$4.00.			
	For furnishing materials and constructing concrete sea wall, \$7.65 for each cubic yard of concrete measured in place in completed work.	24,286 99	24,286 99	19,188 75
Completed May 5, 1932	For furnishing and placing heavy stone riprap and chips against sea wall and bank, \$1.70 for each ton of 2,000 pounds in place in the completed work.			
	Unit prices.	13,764 01	13,764 01	14,039 01
Completed Jan. 11, 1932	For removing hulk and equipment and placing it above high water back of bulkhead on southerly side of Reserved Channel, South Boston, the lump sum of \$6,700.	5,700 —	5,700 —	6,700 —
Completed Mar. 8, 1932	For each linear foot of track furnished and set in place in wharf platform, \$1.68 for each linear foot of track measured in place in the completed work.	4,093 80	4,093 80	4,093 80
Completed Feb. 19, 1932	For furnishing and erecting complete in place the entire superstructure of the gangway, the lump sum of \$3,105.			
	For furnishing and placing heavy stone riprap and granite chips in the jetties, \$2.59 for each ton of 2,000 pounds.	4,266 82	4,266 82	2,590 —
Completed May 20, 1932	For removal and disposal of wreck, the lump sum of \$146.	146 —	146 —	146 —
Completed July 15, 1932	For removal and disposal of hulks on premises of Boston Port Development Company adjacent to Condor and Border Sts., East Boston, the lump sum of \$11,000. (additional work \$3,000.)	14,000 —	14,000 —	14,000 —
Completed May 21, 1932	For removal and disposal of hulks, the lump sum of \$8,570.	8,570 —	8,570 —	8,570 —
Completed Apr. 23, 1932	For removal and disposal of hulks the lump sum of \$8,800.	8,800 —	8,800 —	8,800 —
Completed Mar. 24, 1932	For furnishing and placing each fender log 40 to 60 feet in length, including all bolts and fastenings, as specified, \$4.50 per linear foot of fender measured in place in the completed work.	1,276 94	1,276 94	1,298 —
In progress	For furnishing and placing each wrought iron chain 4 feet in length the lump sum of \$25.			
	Unit prices.	156,101 90	156,101 90	200,618 —
Completed June 28, 1932	For removal and disposal of hulks at premises on Marginal st. adjacent to property of International Glue Company, the lump sum of \$3,000.	3,900 —	3,900 —	3,900 —
	For removal and disposal of hulks at premises on Marginal Street, adjacent to McDonald's Wharf, the lump sum of \$900.			

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
315	Rubble concrete steps over concrete wall at Fieldston, Marshfield . . .	Thomas Whalen & Sons, Inc. . .	Mar. 29, 1932
316	Filling back of concrete sea wall at Fieldston, Marshfield . . .	Thomas Whalen & Sons, Inc. . .	Mar. 29, 1932
317	Commonwealth Pier 5,—changes in boiler settings . . .	James C. Grant . . .	Apr. 12, 1932
318	Harwich Shore,—stone jetties and riprap . . .	Arthur K. Finney . . .	May 3, 1932
319	New Bedford State Pier,—repairs to plaster walls by gunite process . . .	Gunite Construction Company . . .	May 10, 1932
320	Falmouth Shore Protection,—Menauhant Road . . .	Sidney W. Lawrence . . .	May 24, 1932
321	Second Cliff, Scituate,—riprap protection . . .	Thomas Whalen & Sons, Inc. . .	May 31, 1932
322	Commonwealth Pier 5,—Repairs to timber platform . . .	A. A. Hersey & Son Company . . .	June 7, 1932
323	Green Harbor, Marshfield, dredging . . .	Bay State Dredging & Contracting Co. . .	May 31, 1932
324	Boston Inner Harbor,—Dredging areas at East Boston and South Boston . . .	Bay State Dredging & Contracting Co. . .	June 14, 1932
325	Hyannis Harbor, Lewis Bay, Barnstable,—timber bulkhead . . .	Thomas Whalen & Sons, Inc. . .	June 28, 1932
326	Tenean Creek,—dredging . . .	Bay State Dredging & Contracting Co. . .	June 14, 1932
327	New Bedford State Pier,—steel canopy . . .	McClintic-Marshall Corporation . . .	July 5, 1932

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1932

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1932	Total paid to Nov. 30, 1932	Estimated Amount of Contract
Completed June 16, 1932	For all rubble concrete measured in placed in completed work, including furnishing of all material, labor and incidental work, \$6.22 for each cubic yard. For each set of wrought iron railing in place, \$95.	4,764 56	4,764 56	3,873 40
Completed June 14, 1932	For each cubic yard of material furnished, delivered and measured in place in the completed work, 27 cents.	3,512 70	3,512 70	3,240 —
Completed May 5, 1932	For changes in setting of boilers Nos. 3 and 4, including new work and connections, \$2,500. For relining the fronts of boilers Nos. 3 and 4, as specified, \$100.	2,502 50	2,502 50	2,600 —
Completed June 23, 1932	For furnishing and placing heavy stone riprap and granite chips in jetties and in repairing existing structures \$3.33 for each ton of 2,000 pounds.	3,556 97	3,556 97	3,330 —
Completed Aug. 23, 1932	For removing plaster wall on south side of wooden shed and replacing said wall with new gunite wall, the lump sum of \$1,151. For removing plaster walls from south side of steel shed and at southeast corner of pier, and replacing said walls with new gunite walls, the lump sum of \$324. For placing new gunite surface one inch thick on the easterly face of the steel shed at the State Pier, the lump sum of \$995.	2,594 98	2,594 98	2,470 —
Completed Aug. 24, 1932	For each creosoted yellow pine pile furnished and driven in the completed work, \$4.50. For each untreated yellow pine pile furnished and driven in the completed work, \$2.00. For each thousand feet board measure of creosoted yellow pine lumber furnished, driven and set in place, \$86. For each ton of riprap and chips furnished and set in place, \$2.50.	5,324 17	5,324 17	4,311 —
Completed July 15, 1932	For each ton of stone riprap or chips furnished in place in the completed work the sum of \$1.64.	4,445 54	4,445 54	4,616 85
Completed Nov. 29, 1932	Unit prices.	6,161 65	6,161 65	3,784 —
Completed June 17, 1932	For dredging and disposing of dredged material, for each cubic yard, scow measurement, \$1.12. For removing and disposing of all boulders, for each cubic yard \$15.	3,696 —	3,696 —	3,711 —
Completed Oct. 29, 1932	For dredging area at East Boston and disposing of dredged material 37c. per cubic yard, scow measurement. For dredging area at South Boston and disposing of dredged material 37c. per cubic yard, scow measurement. For removing and disposing of boulders \$20 per cubic yard.	28,772 98	28,772 98	38,500 —
In progress	For each linear foot of creosoted timber bulkhead constructed in place, \$11.90.	8,092 —	8,092 —	10,710 —
Completed Aug. 3, 1932	For dredging channel and disposing of dredged material, 48 cents for each cubic yard, scow measurement. For removing and disposing of boulders, \$20 for each cubic yard.	5,388 48	5,388 48	4,820 —
Completed Sept. 2, 1932	For furnishing and erecting steel canopy in place, including all incidental work, the lump sum of \$5,319.	5,484 —	5,484 —	5,484 —

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
328	Commonwealth Pier 5,—reconstruction of boiler settings at heating plant	Caigan Engineering Equipment Company	Aug. 9, 1932
329	Commonwealth Pier 5,—and Viaduct,—reconstruction of concrete beams and slabs	National Gunite Contracting Co.	July 26, 1932
330	Hyannis Harbor, Lewis Bay, Barnstable,—dredging	Saybrook Dredging Company	Aug. 9, 1932
332	West Chop, Tisbury,—shore protection by stone jetties	Joseph W. Nickerson	Aug. 16, 1932
333	Waquoit Bay, Mashpee,—timber bulkhead and jetties	Thomas Whalen & Sons, Inc.	Aug. 30, 1932
334	Sand Hills, Scituate,—rubble concrete ramps	George W. Starbuck	Sept. 6, 1932
335	Brant Rock, Marshfield,—sea wall	A. Piatelli & Company	Sept. 27, 1932
336	Lewis Bay, Hyannis Harbor,—drain and manholes at town landing	Thomas Whalen & Sons, Inc.	Oct. 4, 1932
337	New Bedford State Pier,—lighting system	W. Edward Howarth	Oct. 4, 1932
338	E Street Storehouse,—installation of new electric service	W. D. Smith Electric Co.	Oct. 4, 1932
339	First Cliff, Scituate—riprap	Joseph F. Cavanagh	Oct. 11, 1932
340	Gun Rock—Green Hill,—Hull,—sea wall repairs	Thomas Whalen & Sons, Inc.	Oct. 25, 1932
342	West Harwich Beach,—stone jetty	Sidney W. Lawrence	Nov. 9, 1932
343	Oak Bluffs—repairs to concrete sea wall	Merritt-Chapman & Scott Corporation	Nov. 29, 1932

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1932

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1932	Total paid to Nov. 30, 1932	Estimated Amount of Contract
Completed Nov. 17, 1932	For removing and rebuilding settings of boilers No. 1 and No. 2 and the construction of a pit in front of the same, the lump sum of \$3,600.	3,105 90	3,105 90	3,654 —
Completed Sept. 12, 1932	Unit prices.	7,145 01	7,145 01	5,633 20
In progress	For dredging and disposing of dredged material on marsh, flats and behind the bulkhead, by the hydraulic process, or other means, including the construction of necessary dikes, sluices and spillways and incidental work, \$.1889 for each cubic yard measured in place.	—	—	21,534 60
In progress	For removing and disposing of all boulders, \$10 per cubic yard.	2,884 41	2,884 41	2,095 —
Completed Nov. 28, 1932	For furnishing and placing heavy stone riprap and granite chips in jetties, the sum of \$4.19 for each ton of 2,000 pounds.	1,646 87	1,646 87	1,937 50
Completed Oct. 11, 1932	For each linear foot of creosoted yellow pine bulkhead furnished and driven in place \$7.75. For each linear foot of creosoted yellow pine jetty furnished and driven in place \$7.75.	444.01	444 01	500 —
In progress	For furnishing and placing each cubic yard of concrete measured in place in the completed work, including all excavation, backfilling and incidental work, the sum of \$5.87.	3,631 06	3,631 06	6,650 —
Completed Nov. 26, 1932	For furnishing material and constructing concrete sea wall, including all incidental work, \$6.65 for each cubic yard of concrete measured in place in the completed work.	698 27	698 27	824 20
Completed Nov. 7, 1932	Unit prices.	577 58	577 58	619 51
Completed Oct. 31, 1932	For furnishing all labor, materials and equipment and installing complete a new electric service the lump sum of \$619.51.	531 25	531 25	625 —
Completed Nov. 3, 1932	For furnishing all labor, materials and equipment and installing complete a new electric service the lump sum of \$625.	449 62	449 62	392 50
In progress	For each ton of stone riprap furnished in place in the completed work, \$1.57.	—	—	396 50
In progress	For each cubic yard of concrete in place in the completed work, \$.15.	—	—	530 40
Not yet begun	For each ton of stone riprap furnished in place in the completed work, \$3.12.	—	—	2,002 50
	For furnishing material and constructing concrete sea wall, including excavation, backfill and all incidental work, \$13 for each cubic yard of concrete measured in place in completed work.			
	For each ton of stone riprap furnished in place in completed work, \$3.75.			

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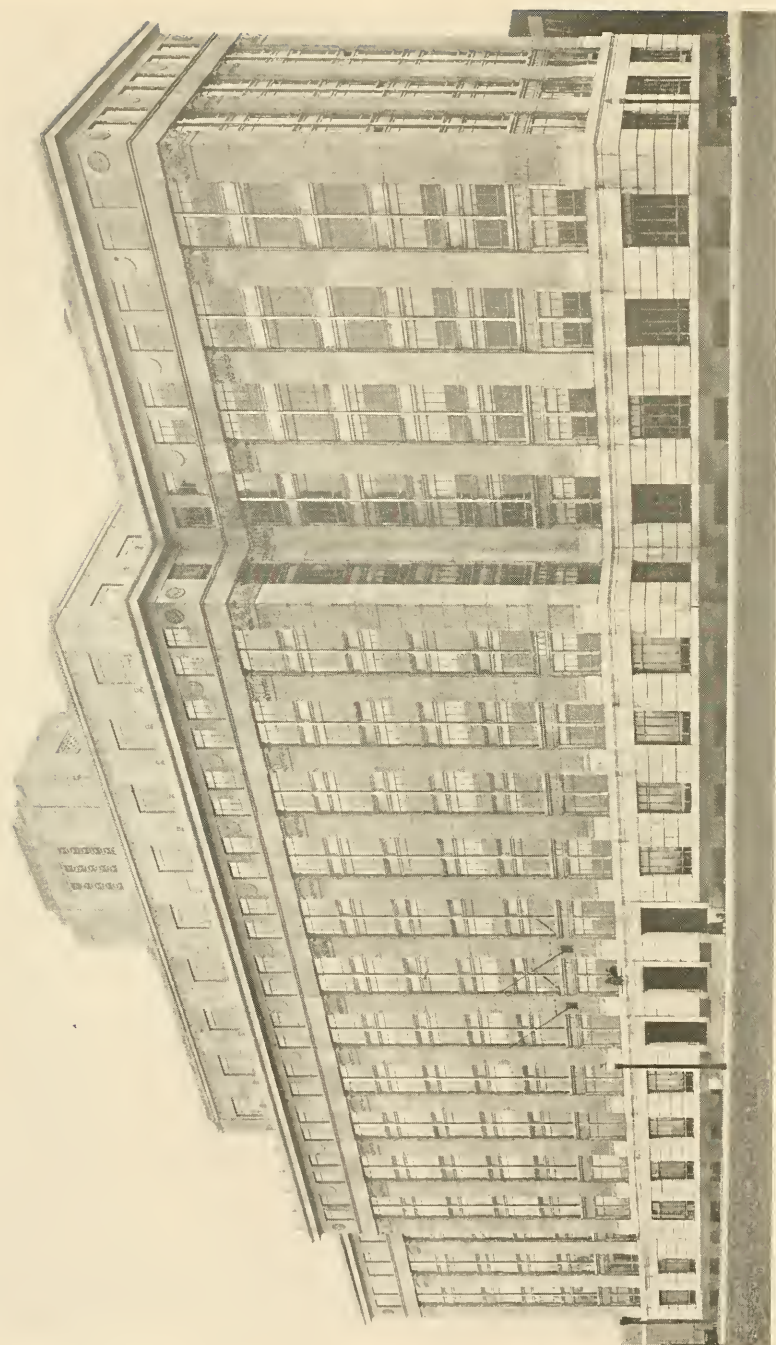
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The Commonwealth of Massachusetts

FOURTEENTH ANNUAL REPORT

OF THE

DEPARTMENT OF PUBLIC WORKS

YEAR ENDING NOVEMBER 30, 1933

*To the Honorable Senate and House of Representatives of the
Commonwealth of Massachusetts*

In accordance with the provisions of law, I have the honor, as Commissioner of Public Works, to submit the fourteenth annual report of the Department of Public Works for the year ending November 30, 1933.

The organization of the Department, as defined in Chapter 16, General Laws, as amended by chapter 297, Acts of 1927, was as follows:—

Commissioner of Public Works, FRANK E. LYMAN.

Associate Commissioner, RICHARD K. HALE.

Associate Commissioner, HERMAN A. MACDONALD.

Office Building. The new office building for this Department is intended to accommodate the various offices of the Department which are located in Boston. Any space not immediately needed for its activities is to be assigned for other State departments at reasonable rental figures. This building was authorized by Chapter 122, Acts of 1931, with additional appropriations for completion, namely,—Chapter 21, Acts of 1932 and Item 578b, Chapter 371, Acts of 1933.

The contract plans were prepared during the latter part of 1931 by the Architect, Edward T. P. Graham, of Boston, working in close cooperation with the Department to plan a layout of offices particularly adapted to the Department's functions, providing adequate working spaces and conditions for more efficient administrative conditions than had for many years been possible with the crowded condition at the State House and at Commonwealth Pier 5.

The main contract, for the erection of the building was awarded to F. V. Warren Co., of Philadelphia, Penn., and this was completed on July 15, 1933.

The Department moved its offices from the State House and its engineering offices from Commonwealth Pier 5, from May 4 to 8, 1933. The Registry of Motor Vehicles moved from Commonwealth Pier to the new building from July 1 to 5, 1933.

A number of outstanding projects were completed or begun during the year as follows: work on the new route 3-A, by-passing the thickly settled parts of Cohasset and Scituate; a new highway constructed from Taunton to Middleborough; a by-pass of Hyannis; a new highway from Dedham to Providence; and the Worcester Turnpike completed easterly through Wellesley and Newton. Work was started on new projects as follows: The portion of the Worcester Turnpike route which lies in Brookline; the new highway from Cambridge to Concord; and the work on the North Shore Radial highway connecting East Boston Traffic Tunnel with the main routes leading to the north.

The mileage of new State highways laid out during the year amounted to 28.41 miles, but there were abandoned or discontinued 13.48 miles of State highways, so that the net mileage of State highways amounted to 1824.05 miles at the end of the year.

The Department has constructed, reconstructed and widened 89.75 miles of State highways and built 163.22 miles of roads in cooperation with cities, towns and counties under the provisions of chapter 90, General Laws, and in addition has constructed 2.34 miles of highways under the

provisions of Special Acts. Under the provisions of section 26, Chapter 81, General Laws, the Department has had charge of the repair and maintenance of 9058 miles of public ways, exclusive of State highways in 179 towns.

The engineering and clerical staff of the Department was as follows:—

Chief Engineer, ARTHUR W. DEAN.

Highway Engineer (Projects), FRANKLIN C. PILLSBURY.

Highway Engineer (Construction), RAYMOND W. COBURN.

Highway Engineer (Maintenance), GEORGE H. DELANO.

Bridge Engineer, GEORGE E. HARKNESS.

District Highway Engineers:—

District No. 1, GEORGE A. CURTIS, — Berkshire County and the towns of Worthington, Middlefield and Huntington in Hampshire County, and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2 H. D. PHILLIPS, — Franklin, Hampshire and Hampden Counties, with the following exceptions: three towns in Hampshire County included in District No. 1 and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON, — Worcester County and the towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN, — Middlesex County.

District No. 5, JAMES E. LAWRENCE, — Essex and Suffolk Counties.

District No. 6, H. O. PARKER, — Norfolk and Bristol Counties.

District No. 7, H. C. HOLDEN, — Plymouth, Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer, for Boston Harbor, — JOHN N. FERGUSON.

District Waterways Engineer, for harbors and waterways outside Boston Harbor, — FRANCIS L. SELLEW.

Secretary, MARY A. RILEY.

Financial Secretary, FRED FAIR.

Registry of Motor Vehicles

Registrar, MORGAN T. RYAN.

Deputy Registrar, ANTHONY A. BONZAGNI.

Assistant to the Registrar of Motor Vehicles, ALFRED W. DEVINE.

Chief Administrative Clerk, CHARLES R. GILLEY.

Chief Inspector of Motor Vehicles, ALBERT S. OLSSON.

A detailed report of the activities of the Department for the year is presented herewith.

FRANK E. LYMAN,

December 1, 1933.

Commissioner of Public Works.

SPECIAL REPORTS TO THE LEGISLATURE

The Department was authorized and directed by the Legislature to make certain investigations, and the reports thereon were made as follows:—

Advisability of further dredging Lynn Harbor and Saugus River and of widening draws in bridges over said river. Report made Dec. 5, 1932, by the Department of Public Works, under chapter 27, Resolves of 1932. (H. 2 of 1933).

Traffic conditions on Fall River and New Bedford highway at Westport Factory. Report made Dec. 2, 1932, by the Department of Public Works, under chapter 25, Resolves of 1932. (H. 3 of 1933).

Abolition of the grade crossing at Lincoln Square in Worcester. Joint report made Dec. 2, 1932, by the Department of Public Works and the

Department of Public Utilities, under chapter 37, Resolves of 1932. (H. 153 of 1933).

Public access to Lake George or Wales Pond in the town of Wales. Report made Dec. 20, 1932, by the Department of Public Works and the Attorney General, jointly, under chapter 453, Acts of 1923. (H. 179 of 1933).

Construction of a new high level bridge over the Weymouth Fore River between the city of Quincy and the town of Weymouth. Report made Dec. 2, 1932, by the Department of Public Works, under chapter 32, Resolves of 1932. (S. 4 of 1933).

Plans for the construction of a comfort station and the laying out of a parking area for motor vehicles near the entrance to the Wachusett Dam in the town of Clinton. Joint report made Dec. 7, 1932, by the Metropolitan District Commission and the Department of Public Works, under chapter 33, Resolves of 1932. (S. 6 of 1933).

Advisability of providing for scientific surveys of the natural resources of the Commonwealth. Report made Dec. 6, 1932, by the Department of Public Works, under chapter 138, Acts of 1932. (S. 8 of 1933).

RECOMMENDATIONS FOR LEGISLATION

The Commissioner of Public Works presented to the State Secretary on Dec. 4, 1933, as required by law that part of the current annual report which contains recommendations or suggestions for legislative action as follows:—

1. The Department recommends legislation to correct bearings of certain harbor lines on the southerly side of Charles River at the Charlestown Bridge in the city of Boston, given in section one, chapter two hundred and thirty-nine, Acts of nineteen hundred and thirty.

2. A portion of the United States Pierhead and Bulkhead line on the easterly side of New Bedford Harbor has been revised by the War Department. Inasmuch as the State harbor line elsewhere coincides with the United States lines, the Department recommends legislation to make the slight changes necessary for the State harbor line to conform to the Federal harbor lines.

3. At the present time the Department of Public Works has limited authority only in regard to the regulation of speed of vehicles on highways. For some time it has been felt that no adequate or satisfactory solution of the problem of speed control has been discovered. The Department asks authority to experiment on various rules and devices on certain highways to determine whether or not a satisfactory solution of the speed problem can be reached by carrying out at the same time both scientific studies and practical tests of various ideas. It also requests authority for a limited period to establish from time to time such rules and regulations as may be necessary to carry out these plans.

APPROPRIATIONS

Chapter 89, Acts of 1933, making appropriations for the employment of additional persons as a measure of relief during the present unemployment emergency, is, in part, as follows:—

Service of the Department of Public Works

Item

C. For removing abandoned hulks or wrecks lying along the waterfront of Boston Harbor, a sum not exceeding fifty thousand dollars . . . \$50,000 00

Chapter 174, Acts of 1933, making appropriations for the maintenance of departments, boards, commissions, institutions and certain activities of the Commonwealth etc., is, in part, as follows:—

Item

Requirements for Extinguishing the State Debt

209. For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of one million six hundred seventy-one thousand three hundred ninety-nine dollars and fifty cents, payable from the following accounts and funds in the following amounts:— from the surplus of sinking fund revenue, four hundred twenty thousand dollars; from the Highway Fund, two hundred four thousand six hundred forty-nine dollars and fifty cents; and the remainder from the General Fund \$1,671,399 50
- 209a. To meet one-fourth of the expenditures authorized by sections one and two of chapter one hundred and twenty-two of the acts of nineteen hundred and thirty-one, and already in the main incurred, which is the proportionate part intended to be ultimately met by the Commonwealth during the current fiscal year, thereby reducing by the sum hereby appropriated the amount that may be borrowed under section three of said chapter, without otherwise affecting the authority to borrow under said section three the remainder of the amount authorized to be borrowed thereunder, the sum of two million one hundred and twenty-five thousand dollars, the same to be paid from the Highway Fund 2,125,000 00

Interest on the Public Debt

210. For the payment of interest on the direct debt of the commonwealth, a sum not exceeding eight hundred sixty-nine thousand dollars, of which sum two hundred thirty-nine thousand dollars shall be paid from the Highway Fund 869,000 00

Service of the Department of Banking and Insurance

Division of Insurance:

298. For other personal services of the division, including expenses of the board of appeal and certain other costs of supervising motor vehicle liability insurance, a sum not exceeding one hundred eighty-two thousand one hundred and eighty dollars, of which sum not more than thirty-five thousand dollars may be charged to the Highway Fund 182,180 00

Service of the Department of Corporations and Taxation

Corporation and Taxation Division:

305. For the salaries of certain positions filled by the commissioner, with the approval of the governor and council, and for additional clerical and other assistance, a sum not exceeding two hundred twenty thousand and sixty dollars, of which sum not more than fifty thousand dollars may be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so called 220,060 00

Service of the Department of Public Safety
Division of State Police:

550.	For the salaries of officers, including detectives, a sum not exceeding four hundred seven thousand six hundred dollars, of which sum not more than one hundred and forty thousand dollars may be charged to the Highway Fund	407,600 00
552.	For other necessary expenses of the uniformed division, including traveling expenses of detectives, a sum not exceeding three hundred fifty thousand dollars, of which sum not more than one hundred fifty-six thousand nine hundred dollars may be charged to the Highway Fund	350,000 00

Service of the Department of Public Works

The appropriations made in the following three items are to be paid two thirds from the Highway Fund and one third from the Port of Boston receipts:

570.	For the salaries of the commissioner and the associate commissioners, a sum not exceeding eighteen thousand four hundred and sixty dollars	18,460 00
571.	For personal services of clerks and assistants to the commissioner, a sum not exceeding eighty-seven hundred and fifty dollars	8,750 00
572.	For traveling expenses of the commissioners, a sum not exceeding seventeen hundred and forty dollars	1,740 00
Total		<hr/> \$28,950 00

Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):

573.	For the personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding eighty-nine thousand three hundred and twenty dollars	89,320 00
574.	For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, a sum not exceeding ten thousand three hundred dollars	10,300 00
575.	For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding twelve thousand dollars	12,000 00
576.	For the construction and repair of town and county ways, a sum not exceeding two million six hundred thousand dollars	2,600,000 00
577.	For aiding towns in the repair and improvement of public ways, a sum not exceeding nine hundred ninety thousand dollars	990,000 00
578.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the	

Item

	purchase and improvement of a nursery for road-side planting, a sum not exceeding two million seven hundred ten thousand dollars	2,710,000 00
578a.	For the maintenance and operation of the new public works building, a sum not exceeding forty thousand dollars	40,000 00
579.	For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding five hundred twenty-five thousand dollars, and in addition there is hereby transferred the sum of seven hundred twenty-five thousand dollars from the appropriation previously made for the elimination of grade crossings	\$525,000 00
580	For administering the law relative to advertising signs near highways, a sum not exceeding fourteen thousand seven hundred and twenty dollars, to be paid from the General Fund	14,720 00
	Registration of Motor Vehicles:	
581	For personal services, a sum not exceeding nine hundred thirty thousand two hundred dollars, of which sum ten thousand dollars may be charged to the General Fund, and the remainder shall be paid from the Highway Fund	930,200 00
582	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding five hundred forty-three thousand five hundred and fifty dollars, to be paid from the Highway Fund	543,550 00
583	For printing and other expenses necessary in connection with publicity for certain safety work, a sum not exceeding one thousand dollars, to be paid from the Highway Fund	1,000 00
	Specials:	
585	For certain highway improvements in the city of Revere, as authorized by chapter four hundred and forty-five of the acts of nineteen hundred and thirty-one, as amended by chapter two hundred and fifty-eight of the acts of nineteen hundred and thirty-two, a sum not exceeding five hundred and fifty thousand dollars, to be paid from the Highway Fund and to be in addition to the unexpended balance of any appropriation heretofore made for the purpose and to be in anticipation of a further appropriation in nineteen hundred and thirty-three sufficient to complete the work authorized by said chapters. The department of public works is hereby authorized to make contracts and incur expenses within the total sum of one million three hundred fifty-five thousand dollars authorized by said chapters	\$550,000 00
586	There is hereby added to the sum appropriated in nineteen hundred and thirty-two for land damages and other expenses incidental to the laying out of a state highway extending from Alewife	

Item

	Brook parkway in the city of Cambridge through said city and certain towns, including Concord, as authorized by chapter three hundred and two of the acts of nineteen hundred and thirty-two, a sum not exceeding one hundred thirty thousand dollars, to be paid from the Highway Fund	130,000 00
	Functions of the department relating to waterways and public lands:	
587	For personal services of the chief engineer and assistants, a sum not exceeding fifty thousand six hundred dollars	50,600 00
588	For services other than personal, including printing pamphlet of laws and the annual report, and for necessary office and engineering supplies and equipment, a sum not exceeding seventeen hundred dollars	1,700 00
589	For the care and maintenance of the province lands and of the lands acquired and structures erected by the Provincetown tercentenary commission, a sum not exceeding forty-seven hundred dollars	4,700 00
590	For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds, a sum not exceeding twenty-two thousand five hundred dollars	22,500 00
591	For the improvement, development and protection of rivers and harbors, tide waters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, and of great ponds, a sum not exceeding twenty-five thousand dollars, and any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered; and further provided that the department of public works may expend a sum not exceeding eight thousand dollars of the total appropriation for dredging near the state pier at New Bedford without any restriction as to contributions	25,000 00
592	For re-establishing and permanently marking certain triangulation points and sections, as required by order of the land court in accordance with section thirty-three of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, a sum not exceeding one thousand dollars	1,000 00
593	For expenses of surveying certain town boundaries, by the department of public works, a sum not	

8		P. D. 54
Item		
	exceeding five hundred dollars	500 00
594	For the operation and maintenance of the New Bedford state pier, a sum not exceeding ten thousand dollars	10,000 00
595	For the compensation of dumping inspectors, a sum not exceeding one thousand dollars	1,000 00
596	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding four thousand dollars	4,000 00
597	For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding thirty-eight hundred dollars	3,800 00
	The unexpended balance of the appropriation made by item six hundred and thirty-eight of chapter two hundred and forty-five of the acts of nineteen hundred and thirty-one for certain work in the Taunton river, authorized by chapter four hundred and five of the acts of nineteen hundred and thirty, is hereby reappropriated.	
598	For the operation and maintenance of the Cape Cod Canal pier, a sum not exceeding thirty-five hundred dollars	3,500 00
598a	For the erection of buildings on the Cape Cod Canal pier, a sum not exceeding twelve thousand five hundred dollars	12,500 00
	Functions of the department relating to Port of Boston (the following items are to be paid from the Port of Boston receipts):	
599	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred nine thousand six hundred dollars	\$109,600 00
600	For the maintenance of pier one, at East Boston, a sum not exceeding seventy-seven hundred and eighty dollars	7,780 00
601	For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding ninety-eight thousand two hundred dollars	98,200 00
602	For dredging channels and filling flats, a sum not exceeding fifty-five thousand dollars, the same to be in addition to any unexpended balance of the appropriation made for the purpose in the previous year	55,000 00

MISCELLANEOUS

The following items are to be paid from the Highway Fund, with the approval of the Metropolitan District Commission:

622	For maintenance of boulevards and parkways, a sum not exceeding five hundred forty-six thousand and forty dollars	546,040 00
623	For resurfacing of boulevards and parkways, a sum not exceeding one hundred thousand dollars	100,000 00
624	For maintenance of Wellington bridge, a sum not	

Item

exceeding forty-nine hundred and fifty-four dollars

4,954 00

For certain other aid:

- 630 For the compensation of certain public employees for injuries sustained in the course of their employment, as provided by section sixty-nine of chapter one hundred and fifty-two of the General Laws, as appearing in the Tercentenary Edition thereof, a sum not exceeding sixty thousand dollars, of which sum not more than twenty thousand dollars may be charged to the Highway Fund

60,000 00

DEFICIENCIES

For deficiencies in certain appropriations of previous years, in certain items, as follows:

Department of Public Works

Functions of the department relating to highways:

- For administering the law relative to advertising signs near highways, the sum of fifteen dollars and eighty-two cents, to be paid from the General Fund

15 82

- For the construction and repair of town and county ways, the sum of sixty dollars and eighty-one cents, to be paid from the Highway Fund

60 81

- For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the purchase and improvement of a nursery for roadside planting, the sum of forty dollars and sixty-four cents, to be paid from the Highway Fund

40 64

- For the purpose of enabling the department of public works to secure federal aid for the construction of highways, the sum of three dollars, to be paid from the Highway Fund

3 00

Registration of Motor Vehicles:

- For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, the sum of three dollars and eight cents, to be paid from the Highway Fund

3 08

Functions of the department relating to waterways and public lands:

- For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, the sum of seventy-eight dollars and ninety-five cents, to be paid from the Port of Boston receipts

78 95

- For dredging channels and filling flats, the sum of six hundred seventy-seven dollars and two cents, to be paid from the Port of Boston receipts

\$677 02

SECTION 6. No payment shall be made or obligation incurred under authority of any special appropriation made by this act for construction of public buildings or other improvements at state institutions until plans and specifications have been approved by the governor, unless otherwise provided by such rules and regulations as the governor may make.

SECTION 8. No expenses incurred on and after the date of the passage of this act for mid-day meals by state employees, other than those who receive as part of their compensation a non-cash allowance in the form of full or complete boarding and housing, and those employees who are stationed beyond commuting distance from their homes for a period of more than twenty-four hours, shall be allowed by the commonwealth.

Chapter 296, Acts of 1933, making an appropriation for adjusting the salaries of certain employees of the Commonwealth, follows:—

SECTION 1. The sum of one hundred and fifteen thousand dollars, of which not more than thirty thousand dollars shall be paid from the Highway Fund, not more than eight thousand dollars from the several funds of the metropolitan district commission, and the remainder from the General Fund, is hereby appropriated to meet the additional payments required for paying the salaries of certain employees of the commonwealth to be increased as of June first in the current year as recommended by the governor in a message to the general court dated May twenty-fifth, nineteen hundred and thirty-three. The sum appropriated by this act shall be apportioned by the comptroller of the commonwealth to the proper appropriations made during the current year in such amounts as may be certified by the division of personnel and standardization of the commission on administration and finance to be necessary to carry out the provisions of this act.

SECTION 2. This act shall take effect upon its passage.

Chapter 371, Acts of 1933, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows:—

SECTION 1. To provide for supplementing certain items in the general appropriation act, and for certain new activities and projects, the sums set forth in section two, for the particular purposes and subject to the conditions stated therein, are hereby appropriated from the general fund or ordinary revenue of the commonwealth, unless some other source of revenue is expressed, subject to the provisions of law regulating the disbursement of public funds and the approval thereof.

SECTION 2.

Item

Service of the Department of Public Works

Functions of the department relating to highways:

- | | | |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 578b | For completing the public works office building and for the settlement of certain claims in connection with the construction of said building, a sum not exceeding eighty-five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purposes and to be paid from the Highway Fund. Any sums awarded by the department of public works on account of said claims shall be subject to the approval of the attorney general | \$85,000 00 |
| 579 | In addition to the sum heretofore appropriated by Item 579 of chapter one hundred and seventy-four of the acts of the current year, there is hereby added the further sum of one million eight hundred and thirty thousand dollars, to be paid from the High- | |

Item

	way Fund, which, together with the appropriation made by Item 585 of said chapter one hundred and seventy-four, may be used by the department of public works in supplementing and expediting the receiving of the benefits provided by the National Industrial Recovery Act or of any other federal money available for the construction of any highway projects, including bridges, authorized by special legislation, or otherwise, and of certain highway improvements in the city of Revere as provided in said Item 585 as the department may find necessary . . .	1,830,000 00
573a	For personal services of the superintendent, elevator operators, watchmen, mechanical handymen and porters employed at the new public works building a sum not exceeding five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose, and to be paid from the Highway Fund . . .	5,000 00
580	For administering the law relative to advertising signs near highways, a sum not exceeding sixty-five hundred dollars, to be paid from the General Fund and to be in addition to any amount heretofore appropriated for the purpose . . .	6,500 00
585	(This item combined with Item 579.)	
585a	For expenses of certain highway improvements, as authorized by chapter three hundred and fifty-six of the acts of the current year, a sum not exceeding forty thousand dollars, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose . . .	40,000 00
	Functions of the department relating to waterways and public lands:	
591a	For certain shore protection in the town of Nahant, a sum not exceeding fifteen thousand dollars, which sum is hereby made available at such time as the town of Nahant pays into the treasury of the commonwealth an equal sum of fifteen thousand dollars . . .	15,000 00
591b	For the improvement of the dike across the mouth of the Herring river in the town of Wellfleet, as authorized by chapter two hundred and seventeen of the acts of the current year, a sum not exceeding ten thousand dollars . . .	10,000 00
591c	For the extension of certain sea walls in the town of Scituate, as authorized by chapter two hundred and eighty-six of the acts of the current year, a sum not exceeding thirty-seven thousand five hundred dollars . . .	37,500 00
591d	For placing riprap for the protection of the shore at Stony Beach in the town of Hull, as authorized by chapter three hundred and thirty of the acts of the current year, a sum not exceeding eight thousand dollars . . .	8,000 00
	Functions of the department relating to Port of Boston (the following items are to be paid from the Port of Boston receipts):	

Item

602	For dredging channels and filling flats, a sum not exceeding twenty-five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	25,000 00
C	For removing abandoned hulks or wrecks lying along the waterfront of Boston harbor, a sum not exceeding twenty-five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	25,000 00
1933, ch. 89		

Miscellaneous

The following item is to be paid from the Highway Fund, with the approval of the Metropolitan District Commission:

623	For resurfacing of boulevards and parkways, a sum not exceeding fifty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose, provided that human labor be used as far as may be possible	50,000 00
	Claims:	
636a	For the payment of claims authorized by certain resolves of the current year, a sum not exceeding fifty-six thousand eight hundred eleven dollars and eighteen cents, of which sum one hundred sixty dollars and forty-one cents shall be charged to the Highway Fund. Said payments shall be certified by the comptroller of the commonwealth only upon the filing of satisfactory releases or other evidence that the payments are accepted in full compensation on the part of the commonwealth in respect thereto	56,811 18

DEFICIENCIES

For deficiencies in certain appropriations of previous years, in certain items, as follows:

Department of Public Works

For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the purchase and improvement of a nursery for roadside planting, the sum of three hundred forty-seven dollars and eighty-four cents, to be paid from the Highway Fund	347 84
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------

SECTION 3. The following amendments and transfers are hereby authorized in appropriations previously made:

- Item 579 of chapter one hundred and seventy-four of the acts of the present year is hereby amended by striking out the word "twenty-five" in line six.
- Item 585 of chapter one hundred and seventy-four of the acts of the present year is hereby amended by striking out the word "thirty-three" in lines eleven and twelve and inserting in place thereof the word "thirty-four".

Item

Department of Public Works

The treasurer and receiver-general is hereby directed to assess upon the municipalities of the metropolitan parks district, including the city of Revere, in proportion to the respective taxable valuations of the property of said municipalities as defined by section fifty-nine of chapter ninety-two of the General Laws, from time to time as certified by the department of public works, such sums as represent that portion of the cost of certain work authorized by section one of chapter four hundred and forty-five of the acts of nineteen hundred and thirty-one, as amended by chapter two hundred and fifty-eight of the acts of nineteen hundred and thirty-two, which, under section six of said chapter four hundred and forty-five, as so amended, are to be paid by said municipalities, and such sums as in the aggregate amount to one third of the cost of the work authorized by section three of said chapter four hundred and forty-five, as amended.

FINANCIAL STATEMENTS

Summary of Income, Year Ending November 30, 1933

HIGHWAY FUND

*Section 34, Chapter 90, General Laws, as amended**(See Chapter 288, Acts of 1925)*

Fees (for registration of motor vehicles, licenses to operate, etc.) and fines (penalties, Sundry Courts), gross receipts . . .	\$6,317,240.63
Gasoline tax, gross	16,681,710.59
Contributions for highways and assessments (G. L. Ch. 81)	506,910.10
Appropriation balances of previous years reverting	240,541.01
Contributions and refunds	104,846.11
Sale of old materials and buildings	5,366.68
Reimbursement for repairs to guard rail and other property	7,209.67
Rent of property (Nursery)	230.00
Rent of space, Public Works Building	739.20
Slot Machine Receipts	52.90
	<hr/> \$23,864,846 89

PORT OF BOSTON FUND

(Chapter 91, General Laws)

Rents (leases and permits)	161,768 84
Reimbursement for services (inspection of dumping dredged material in Boston Harbor)	2,729 90
Use of Commonwealth Pier No. 5 (wharfage, dockage, rentals, etc.)	146,939 35
Use of Commonwealth Pier No. 1 (rentals, etc.)	1,513 23
Revenue from permits for dumping dredged material at receiving basins	4,160 19
License charges (for tidewater displacement and occupying Commonwealth tide lands (Boston Harbor)	7,221 02
Telephone pay station receipts	100 40
Sales of land	40,745 00
Sales of Boston Harbor maps	1 50
Sundries	287 87
Appropriation balances of previous years reverting	3,951 63
	<hr/> \$ 369,418 93

DEPARTMENT INCOME

(Ordinary Revenue)

Sales (specifications and plans for contracts)	430 00
Interest on Bank accounts	248 01
Aircraft Licenses	492 00
Reimbursement for services (inspection of dumping dredged material outside of Boston Harbor, ch. 196, Acts of 1925)	297 37
License charges (for tidewater displacement and occupying Commonwealth tide lands) outside of Boston Harbor	2,393 65
Certified copying charges	93 00
Sale of Atlas sheets and miscellaneous plans	865 10

Use of Province Lands (S. 25, C. 91, G. L.)	167 05	
Permits for advertising signs	13,231 92	
Use of New Bedford State Pier	19,248 84	
Use of Plymouth State Pier	200 00	
Use of Cape Cod Canal State Pier	660 00	
Reimbursement a/c removal of wrecks . .	881 98	
		\$39,208 92

IMPROVEMENT OF RIVERS AND HARBORS TRUST

(Sections 11, 29, chapter 91, General Laws)

Contributions from towns, individuals or others	\$30,050 00
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HIGHWAY TRUST

Section 30, Chapter 81, G. L.

Federal Aid (reimbursement from United States Government)	\$3,375,466 67
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FUNDS CONTRIBUTED FOR WORK UNDER SPECIAL ACTS

Contribution by City of Quincy (Chap. 222, Acts of 1932)	\$3,000 00	
Contribution by Town of Winthrop (Ch. 256, Acts of 1932)	25,000 00	
Contribution by Town of Nahant (Ch. 371, Acts of 1933)	15,000 00	
Contribution by County of Plymouth (Ch. 286, Acts of 1933)	18,750 00	
Contribution by Town of Scituate (Ch. 286, Acts of 1933)	18,750 00	
		\$80,500 00
<i>Total</i>		\$27,759 491 41

EXPENDITURES

The expenditures by the Department under the provisions of General Laws and other acts and the appropriation acts, chapters 174 and 371, acts of 1933, during the fiscal year ending November 30, 1933, were as follows:

ADMINISTRATIVE

Commissioners Associate Commissioners, Personal services of clerks, stenographers, and commissioners' travel	\$27,390 36	
Public Works Department Building, land and services	490,341 22	
Public Works Building, equipment	37,880 49	
Public Works Building, operation and maintenance	35,881 42	
		\$591,493 49

RELATING TO HIGHWAYS

<i>Personal Services</i> —Chief Engineer, Clerks and stenographers		\$86,252 88
<i>State Highways</i> —Construction (Chapter 81, G. L.) general contract work	\$3,662,306 39	
Engineering (Supervision)	654,470 16	
Rent of offices, Comm. Pier 5	3,600 00	
Highway Testing Laboratory	15,952 57	
Hingham—Hull (Chapter 118, Acts of 1931)	36 90	
Lynn—Revere, N.I.R.A.	669 74	
		4,337,035 76

Maintenance and Repair of State Highways
(Chapter 81, General Laws)

Reconstruction of State Highways

General contract work	1,571,900 32
Engineering, supervision on reconstruction	380,639 56

1,952,539 88

Ordinary Maintenance

General Maintenance	1,393,141 37
Engineering (Supervision)	309,006 47
Highway Testing Laboratory	9,038 22
Care and repair of road building machinery	87,405 08
Removal of snow from highways	506,069 26
Roadplanting and development	29,485 17
Traffic engineering, signs and traffic count	153,971 48
Paint manufacture	9,265 37
Newburyport Bridge, Salisbury-Newburyport, over Merrimack River, maintenance and operation	11,350 43
Brightman St. Bridge, Fall River-Somerset, maintenance and operation	16,703 60
New Bedford-Fairhaven Bridge, Acushnet River (Chapter 426, Acts of 1930)	14,486 01
Route and detour maps	1,154 15
Rent for offices at Commonwealth Pier 5	3,600 00
Construction of D Street Garage	40,802 91
Heating plant at D Street	7,093 80

2,592,573 32

Construction and Repair of Town and County Ways

(Section 34, Chapter 90, General Laws)

State's expenditures for work contracted for in cities and towns	1,597,721 20
Engineering and expense (supervision)	369,207 81
Rent of offices, Commonwealth Pier 5	1,800 00

1,968,729 01

Aiding Towns in the Repair and Improvement of Public Ways (Section 26, Chapter 81, General Laws, as amended)

State's expenditures for work contracted for in cities and towns	886,239 60
Engineering and expense (supervision)	78,273.55

964,513 15

Special Acts:

Expenditures under the provisions of Chapter 122, Acts of 1931	870,259 40
<i>Incidentals</i> (printing, postage, supplies, etc.)	7,845 26
<i>Advertising signs regulation of personal services and expenses</i>	21,092 36
<i>Highways in Malden, Braintree, Weymouth and Hingham</i>	3,168 90
<i>Highways in Metropolitan District</i> (Chapter 420, Acts of 1930, as amended by Chapter 450, Acts of 1931)	
Section 1. Canton, Dedham, Wellesley, etc.	136,199 51
Section 2. Canterbury Street, Boston	28,872 98

Section 3. Land taking-Neponset River, Milton	55,091 43	
Section 4. West Roxbury - Brookline Parkway	86,811 91	
		306,975 83
<i>Abolition of Grade Crossings</i> (Chapter 417, Acts of 1930)		26,037 86
<i>Plans for Weymouth Fore River Bridge</i> (Chapter 32, Resolves of 1932)		8,030 67
<i>Construction of Saugus River Bridge</i> (Chap- ter 241, Acts of 1932)		534 57
<i>Expenditures under Chapter 258, Acts of</i> 1932.		
Section 1. State Highway, Revere	366,967 70	
Section 2. Boston-Revere	177,858 88	
Section 3. Ocean Ave., Revere	202,183 89	
		747,010 47
<i>Alewife Brook Parkway Extension</i> (Chapter 302, Acts of 1932)		68,468 57
<i>Suppression of gypsy and brown-tail moths</i> on State Highways in cities and towns		11,907 67
<i>Total Expenditures for Highways</i>		\$13,972,975 56

SUMMARY OF EXPENDITURES RELATING TO WATERWAYS

General Expenses	\$50,473 53
<i>Boston Harbor:</i>	
Maintenance and Operation, Commonwealth Pier No. 1, East Boston	6,731 57
Maintenance and Operation, Commonwealth Pier No. 5, South Boston	101,319 54
Maintenance of Property	50,355 69
Dredging and Filling	39,148 13
Streets, Piers and Railroads	49 00
Removal of Hulks (Chapter 89, Acts of 1933)	71,760 01
Quincy Bay (Chapter 222, Acts of 1932)	11,906 42
<i>Outside of Boston Harbor:</i>	
Improvement of Rivers and Harbors	113,184 57
Repairing damages to shore	24,467 08
New Bedford State Pier, operation and maintenance	5,420 89
New Bedford State Pier (Chapter 273, Acts of 1932)	713 91
Expenses of Province Lands	4,700 00
Expenses of Plymouth Property	3,407 07
Topographical survey	1,000 00
Stream Gauging	4,000 00
Surveying state and town boundaries	278 32
Compensation for services of dumping inspectors	115 12
Marshfield Shore Protection (Chapter 407, Acts of 1931)	16,434 84
Scituate Shore Protection (Chapter 424, Acts of 1931)	185 06
Scituate Shore Protection (Chapter 286, Acts of 1933)	45,532 14
Construction of Pier, Cape Cod Canal (Chapter 441, Acts of 1931)	87,065 25
Cape Cod Canal Pier, operation and maintenance	2,135 46
Geological Survey Trust Fund	2,709 90
Nahant shore protection	2,093 04
Winthrop shore protection (Chapter 256, Acts of 1932)	111,279 49
Herring River, Wellfleet (Chapter 217, Acts of 1933)	4,685 12
	<hr/>
	\$761,151 15

EXPENDITURES RELATING TO THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles . . . \$1,434,382 44

SUMMARY OF EXPENDITURES BY DEPARTMENT
FOR YEAR ENDING NOVEMBER 30, 1933

Administrative	\$591,493 49
Relating to Highways	13,972,975 56
Registry of Motor Vehicles	1,434,382 44
Relating to Waterways	761,151 15
Total	<hr/> \$16,760,002 64

COOPERATIVE WORK — SUPERVISION OF EXPENDITURES

The Department has supervised the expenditures during the year by cities, towns and counties, under chapter 81, General Laws, as amended, of approximately \$2,265,742.12 for cooperative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Department.

RELATING TO HIGHWAYS
GENERAL STATEMENT

State Highways.—During the year ending November 30, 1933, the Department laid out new State highways amounting to 28.41 miles in 25 cities and towns. Under Chapter 81, General Laws, as amended by Chapter 427, Acts of 1931, 13.485 miles of State Highway were discontinued or abandoned. The total length of State Highways at the end of the year was 1824.051 miles.

Highways Constructed in 1933.—Construction has been completed on 44.366 miles of State highway, 163.220 miles of highway under the provisions of section 34, Chapter 90, General Laws, as amended, and 2.345 miles of highway under the provisions of Special Acts, making a total of 209.931 miles completed during the year.

Of the above highways completed this year, the classification according to type of pavement is as follows:

- 12.798 miles of Reinforced Cement Concrete
- 5.258 miles of Dual (reinf. conc. and bit. macadam).
- 69.897 miles of Bituminous Macadam.
- 18.065 miles of Bituminous Concrete.
- 55.944 miles of Bituminous Concrete (Mixed in Place).
- 0.246 miles of Waterbound Macadam (Bituminous Surf.).
- 26.032 miles of Gravel with Bituminous Treatment.
- 21.691 miles of Gravel.

Resurfacing, Reconstruction and Widening of State Highways.—During the year 0.758 miles of State highway were widened but not resurfaced, and 44.621 miles were resurfaced or reconstructed and widened. In addition to this work on which the surfacing has been completed, there are several miles of road in various stages of completion which are scheduled to be finished up next year.

The Resurfacing or Reconstruction of State Highways in 1933 was divided into types as follows:

- 5.219 miles of Reinforced Cement Concrete.
- 32.868 miles of Bituminous Macadam.
- 4.318 miles of Bituminous Concrete.
- 2.216 miles of Bituminous Concrete (Mixed in Place).

Surveys, Plans and Estimates.—During the year ending November 30, 1933, preliminary surveys, plans and estimates were made as follows:

For State Highway Construction.—Preliminary surveys in 8 cities and 16 towns, 41.582 miles; plans in 7 cities and 12 towns, 45.074 miles; preliminary estimates in 4 cities and 15 towns, 42.827 miles; lines and grades in 5 cities and 17 towns, 52.666 miles; and final surveys in 1 city and 19 towns, 42.441 miles.

For State Highway Reconstruction and Resurfacing.—Preliminary surveys in 8 cities and 52 towns, 112.241 miles; Plans in 7 cities and 49 towns, 95.028 miles; Preliminary estimates in 6 cities and 58 towns, 120.620 miles; lines and grades in 7 cities and 59 towns, 116.040 miles, and final surveys in 1 city and 25 towns, 46.810 miles.

Under Section 34, Chapter 90, General Laws, as amended.—Reconnaissance surveys in 10 towns, 17.384 miles; preliminary surveys in 9 cities and 155 towns, 182.740 miles; plans in 9 cities and 154 towns, 176.105 miles; preliminary estimates in 9 cities and 162 towns, 179.408 miles; lines and grades in 9 cities and 169 towns, 183.416 miles; and final surveys in 5 cities and 51 towns, 63.417 miles.

National Recovery Act.—Since the passage of the National Recovery Act, a large number of projects have been prepared, in addition to the projects authorized by this department. It is not the purpose of the following list to show the mileage of all the projects that have been worked up for the National Recovery Act, because some of the surveys, plans, and estimates had been made prior to the passage of the Act, or have been included elsewhere in the preceeding lists and would have been completed with funds of the Commonwealth, in normal times.

Preliminary plans in 3 cities and 22 towns, 54.470 miles; plans in 2 cities and 20 towns, 43.35 miles; estimates in 2 cities and 23 towns, 52.26 miles; lines and grades in 1 city and 3 towns, 3.19 miles.

Under the provisions of various acts and resolves, surveys, plans, estimates, lines and grades and final surveys were made as follows:

Chapter 24, Resolves of 1933; Section A, 18.00 miles of reconnaissance survey and plans in 3 cities and 9 towns, 29.76 miles of estimate in 3 cities and 9 towns. Section B, 5.38 miles of reconnaissance survey, plans, and estimates in 1 city and 1 town.

Chapter 14, Resolves of 1933:—29.73 miles of reconnaissance estimates in 1 city and 1 town.

Chapter 16, Resolves of 1933:—8.3 miles of reconnaissance estimates in 1 city and 1 town.

Chapter 302, Acts of 1932:—1.39 miles of reconnaissance survey and plans in 1 town.

Chapter 31, Resolves of 1933:—27.76 miles of reconnaissance estimates in 7 towns.

Chapter 23, Resolves of 1933:—25.00 miles of reconnaissance estimates in 4 cities and 7 towns.

Chapter 417, Acts of 1930:—1.10 miles of survey and plans in 1 town.

Construction Reconnaissance.—61 miles of survey and plans in 2 cities and 12 towns; 40 miles of estimate in 2 cities and 8 towns.

Reconstruction Reconnaissance.—3.72 miles of survey, plans and estimates in 1 city and 4 towns.

Precise levels have been made covering 422 miles in 34 towns; 40 bench mark disks have been set in 26 towns.

Permits.—There were 1701 permits issued during the year for opening or occupying State highways for various purposes.

Engineering Advice to Other Departments.—Advice to Department of Public Safety; 0.04 miles of survey in one town.

Advice to Department of Conservation; 1.00 mile of survey, plan and estimate in 1 town.

Engineering Advice to Municipal Authorities.—The Department furnished engineering advice without charge to 28 cities and towns in accordance with the provisions of Section 1, Chapter 81, General Laws.

Approval of Specifications.—The Department approved during the year, under the provisions of Section 7, Chapter 44, General Laws, as amended, specifications for the construction of roads in 7 towns and cities.

Approval of Bridge Plans.—The Department approved during the year, under the provisions of Chapter 313, Acts of 1923, plans for the construction of 5 bridges in 1 town and 3 cities.

Planting of Trees on State Highways.—During the past year, 1,224 trees were planted along roadsides making a total of 64,891 trees thus set out in the past twenty-nine years. In addition, there were planted throughout the State 707 shrubs, 402 vines, and 120 evergreens; also 376 small pines on bare slopes and ragged cuts.

PETITIONS, MEETINGS AND HEARINGS

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, Chapter 81, General Laws; hearings on appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 86 cases; on an order prohibiting the use of North Adams Airport as a landing field; on an order permitting the use of the Framingham Airport as a landing field for commercial aircraft; on a special regulation for motor vehicles in Milton; on a petition for the relocation of street railway tracks in Revere; on the matter of outdoor advertising in five towns and cities; on the matter of an overpass across the location of the Boston & Maine Railroad in Revere; on the matter of traffic rules; on the matter of an investigation relative to bridge over Mystic River in the cities of Chelsea and Revere under the provisions of Chapter 36, Resolves of 1933; and on the matter of laying out State highways across railroad crossings in Auburn and Stoughton.

Petitions were received and contracts signed during the year as follows:

	Petitions	Contracts
State highways	27	29
Work under section 34, Chapter 90, General Laws, as amended		260
Work under section 26, Chapter 81, General Laws, as amended	179	178
Work under Special Acts		4
Micellaneous		10
Total	206	481

STATE HIGHWAYS

PETITIONS FOR STATE HIGHWAYS

General Laws, chapter 81, section 4, provides that —

"If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city, or town, they may apply, by a written petition, to the division, requesting that said way be laid out and taken charge of by the Commonwealth."

Petitions under the aforesaid section have been received during the year, as follows:—

SELECTMEN OF WEBSTER: — Road extending from a point on Oxford Road about 0.35 of a mile south of the dividing line between the towns of Oxford and Webster, at or near the property of Sarah Bragg Estate, southerly, over a new location, to a point on Oxford Road about 500

feet north of the crossing of the Boston & Albany Railroad. Received Dec. 8, 1932.

SELECTMEN OF YARMOUTH:—Road extending from a point on Main Street about 900 feet southwest of South Street, northeasterly, over a new location to the junction of Main and Bridge Streets. Received Dec. 12, 1932.

SELECTMEN OF DRACUT:—Road extending from the dividing line between the city of Lowell and the town of Dracut, locally known as Riverside, Pleasant and Arlington Streets, easterly to the State highway leading from Lowell to Methuen, known as Broadway. Received Dec. 13, 1932.

MAYOR AND BOARD OF STREET COMMISSIONERS OF BOSTON:—Road extending from Boardman Street, at the 1932 State highway layout, to Bennington Street, in part over a new location and in part over Pope Street. Received Dec. 22, 1932.

MAYOR AND CITY COUNCIL OF REVERE:—Road extending from the Revere Beach Parkway, at or near Stowers Court, to Broadway, at or near Squire Road. Received Jan. 26, 1933.

SELECTMEN OF OXFORD:—Road extending from the 1921 State highway layout to the 1916 State highway layout, about nine-tenths of a mile in length, locally known as Main Street. Received Feb. 6, 1933.

SELECTMEN OF GEORGETOWN:—Road extending from the dividing line between the towns of Boxford and Georgetown, locally known as Central, North and Pond Streets, to the dividing line between the towns of Georgetown and Groveland. Received Feb. 11, 1933.

SELECTMEN OF WEST NEWBURY:—Road extending from the dividing line between the towns of West Newbury and Groveland, locally known as Georgetown, Maple and Church Streets, to the dividing line between the towns of Merrimac and West Newbury.

SELECTMEN OF GROVELAND:—Road extending from the dividing line between the towns of Georgetown and Groveland to the dividing line between the towns of Groveland and West Newbury, locally known as Pond Street and J. B. Little Road. Received Feb. 25, 1933.

SELECTMEN OF UXBRIDGE:—Road extending from the Rhode Island State line to connect with a road leading to Providence, Rhode Island. Received Dec. 29, 1932.

SELECTMEN OF BROOKLINE:—Road extending from the dividing line between the town of Brookline and the city of Newton, easterly over Boylston Street to a point about 1,100 feet easterly of Jefferson Road. Received May 5, 1933.

SELECTMEN OF BLANDFORD:—Road extending from Blandford Village to the dividing line between the towns of Russell and Blandford, locally known as the Blandford and Russell Stage Road. Received May 15, 1933.

SELECTMEN OF BLANDFORD:—Road extending from Blandford Village to the dividing line between the towns of Blandford and Otis, locally known as the Main Road. Received May 29, 1933.

SELECTMEN OF HAMILTON:—Road locally known as Main Street, extending from Bridge Street to a point in front of the Congregational Church Grounds. Received June 1, 1933.

SELECTMEN OF BROOKLINE:—Road extending from a point on Boylston Street about 1100 feet easterly of Jefferson Road easterly over Boylston Street to Washington Street; thence along Washington Street to the dividing line between the town of Brookline and the city of Boston. Received July 20, 1933.

MAYOR AND BOARD OF ALDERMEN OF WOBURN:—Road on the main highway from Woburn to Wilmington between the 1912 and 1913 State highway layouts. Received Aug. 22, 1933.

SELECTMEN OF WEST SPRINGFIELD:—Road extending from the West

Springfield terminus of the North End Bridge northerly to the dividing line between the town of West Springfield and the city of Holyoke, locally known as Riverdale Street. Received Sept. 15, 1933.

SELECTMEN OF NEWBURY: — Road extending from the dividing line between the towns of Newbury and Georgetown to the dividing line between the towns of Newbury and West Newbury, locally known as Main Street. Also a road extending from the dividing line between the towns of Newbury and West Newbury, near the Rock Farm, so called, over Scotland Road and new location, to the Newburyport Turnpike, near the Little River Bridge. Received Oct. 17, 1933.

SELECTMEN OF GEORGETOWN: — Road extending from the dividing line between the towns of Georgetown and Boxford to the dividing line between the towns of Newbury and Georgetown, locally known as Andover and North Streets. Received Oct. 17, 1933.

SELECTMEN OF WEST NEWBURY: — Road extending from the dividing line between the towns of West Newbury and Newbury, on South Street near Great Rock, to the dividing line between the towns of Newbury and West Newbury on South Street on the road to Newburyport. Received Oct. 17, 1933.

SELECTMEN OF NORTH ATTLEBOROUGH: — Road extending from the dividing line between the towns of Plainville and North Attleborough to the junction of North Washington Street and the new By-Pass Road, locally known as Park Street. Received Oct. 21, 1933.

SELECTMEN OF BOURNE: — Road on new location, extending from the intersection of Bridge Street and the State highway north of the Cape Cod Canal, northeasterly and southeasterly to the northerly side of the Cape Cod Canal, at a point about 3,000 feet easterly from existing Bourne highway bridge across the canal; and beginning again at or near the southerly side of the canal, at a point about 3,000 feet easterly from said Bourne Bridge and extending southerly to a point on the 1932 layout of the State highway leading to Falmouth, about 8,000 feet southerly from Trading Post Corner. Received Oct. 23, 1933.

SELECTMEN OF BOURNE: — Road on new location extending from the dividing line between the towns of Bourne and Plymouth, at the State highway locally known as Plymouth Road, southerly, to the northerly side of the Cape Cod Canal, at a point about 350 feet southwesterly of the intersection of Hunter Brook Road with the State highway north of the Canal; and beginning again at or near the southerly side of the Canal, at a point about 1200 feet northeasterly from the intersection of Adams Street with the State highway south of the Canal, and extending southerly and easterly to a point on said State highway about 1,500 feet westerly of the dividing line between the towns of Bourne and Sandwich. Received Oct. 23, 1933.

SELECTMEN OF FAIRHAVEN: — Road extending from the intersection of Huttleston Avenue and Adams Street, southeasterly, in part over new location and in part over Spring and Washington Streets, to the end of the present State highway on Washington Street, near Alden Road. Received Oct. 30, 1933.

SELECTMEN OF OTIS: — Road extending from the dividing line between the towns of Otis and Blandford, to the State highway in Otis Village, locally known as Blandford Road and East Otis Road, also a road extending from the State highway in Otis Village to the dividing line between the towns of Otis and Monterey, locally known as Monterey Road and West Otis Road. Received Oct. 30, 1933.

SELECTMEN OF LINCOLN: — Road extending from the State highway, locally known as Lexington Road, at or near its intersection with Brooks Road, southwesterly, over new location, to the dividing line

between the towns of Lincoln and Concord, near Concord Avenue. Received Oct. 27, 1933.

SELECTMEN OF EAST BRIDGEWATER:—Road extending from Bedford Street to the dividing line between the towns of East Bridgewater and Halifax, locally known as Whitman and Plymouth Streets. Received Nov. 7, 1933.

CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS
(Chapter 81, General Laws, as amended)

The following contracts were entered into during the year for the construction and reconstruction of State highways, and work incidental thereto, in various municipalities:—

Middleborough

Dec. 27, 1932, contract made with Arute Bros., Incorporated, of Bridgewater, for constructing about 27,906 feet of State highway on Wareham Street; the surface consisting of bituminous macadam. The proposal amounted to \$56,452.50. Work completed July 15, 1933. Expenditure during 1933, \$53,669.16.

Yarmouth

Jan. 3, 1933, contract made with Sidney W. Lawrence, of Falmouth, for constructing and reconstructing about 26,805 feet of State highway on Main Street; the surface consisting of bituminous concrete. The proposal amounted to \$112,159.20. Work practically completed. Expenditure during 1933, \$109,273.66.

Cohasset-Scituate

Jan. 3, 1933, contract made with C. M. Callahan, Inc., of Boston, for constructing about 10,512 feet of State highway in Cohasset and about 20,300 feet of State highway in Scituate; the surface consisting of bituminous macadam. The proposal amounted to \$206,066.10. Work practically completed. Expenditure during 1933, \$167,233.01.

Pittsfield

Jan. 31, 1933, contract made with the Lee Construction Co., Inc., of Boston, for reconstructing a steel bridge with approaches on about 652 feet of State highway on Lebanon Road; the surface consisting of reinforced cement concrete. The proposal amounted to \$37,273.37. Work completed October 5, 1933. Expenditure during 1933, \$42,160.22.

Oxford-Webster

Feb. 21, 1933, contract made with the C. & R. Construction Company, of Boston, for constructing and reconstructing about 11,878 feet of State highway on Main Street in Oxford, and about 6,100 feet of State highway on Oxford Road in Webster, the surface consisting of bituminous macadam. The proposal amounted to \$125,452.90. Work completed November 7, 1933. Expenditure during 1933, \$132,186.29.

Yarmouth

June 6, 1933, contract made with John Burke, of Barnstable, for moving buildings of William W. Howard on the State highway in Yarmouth. The proposal amounted to \$1,173.00. Work completed October 27, 1933. Expenditure during 1933, \$1,312.89.

Wellesley

June 27, 1933, contract made with F. Pritchard & Son, Inc., of Watertown, for moving building of Jeannette Stanwood on the Boston-Worcester Turnpike. The proposal amounted to \$790.00. Work completed July 24, 1933. Expenditure during 1933, \$790.00.

Eastham

July 5, 1933, contract made with Sidney W. Lawrence, of Falmouth, for reconstructing about 2,050 feet of State highway; the surface consisting of bituminous concrete. The proposal amounted to \$9,326.50. Work completed September 20, 1933. Expenditure during 1933, \$11,827.48.

Newbury

Aug. 22, 1933, contract made with Ellsworth H. Lewis, of Andover, for reconstructing about 16,091 feet of State highway on High Street; the surface consisting of bituminous macadam. The proposal amounted to \$85,065.95. Work completed November 29, 1933. Expenditure during 1933, \$87,145.78.

Williamstown

Aug. 22, 1933, contract made with J. F. Fitzgerald Construction Company, of Boston, for reconstructing about 5,700 feet of State highway on Pownal Road, and about 950 feet of town highway on the same road in Williamstown; the surface consisting of bituminous macadam. The proposal amounted to \$103,975.63. Work about one-third completed. Expenditure during 1933, \$39,195.13.

Amesbury

Aug. 23, 1933, contract made with James E. Watkins Company, Inc., of Amesbury, for constructing about 4,199 feet of State highway on Main Street and new location; the surface consisting of bituminous macadam. The proposal amounted to \$41,743.60. Work about one-half completed. Expenditure during 1933, \$29,723.17.

Huntington

Aug. 23, 1933, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing about 28,113 feet of State highway on the Worthington Road; the surface consisting of bituminous macadam. The proposal amounted to \$129,155.40. Work about one-half completed. Expenditure during 1933, \$54,711.63.

Lanesborough-Pittsfield

Aug. 23, 1933, contract made with The Lane Construction Corporation, of Meriden, Conn., for reconstructing about 1,831 feet of State highway on North Adams Street in Lanesborough, and about 7724 feet of State highway on the same street in Pittsfield; the surface consisting of reinforced cement concrete. The proposal amounted to \$65,500.90. Work practically completed. Expenditure during 1933, \$60,957.77.

Williamstown

Sept. 5, 1933, contract made with the American Bridge Company, of Boston, for constructing a steel bridge superstructure over the Hoosic River and the Boston & Maine Railroad on Pownal Road. The proposal amounted to \$44,696.10. Work just commenced. No expenditure during 1933.

Wareham

Sept. 6, 1933, contract made with Sidney W. Lawrence, of Falmouth, for reconstructing about 8,556 feet of State highway on Agawam Road; the surface consisting of bituminous macadam. The proposal amounted to \$54,152.20. Work about one-third completed. Expenditure during 1933, \$17,664.55.

Brookline-Newton

Sept. 13, 1933, contract made with Coleman Bros., Incorporated, of Boston, for constructing about 1,655 feet of State highway on Boylston

Street in Newton, and about 4,100 feet of State highway on the same street in Brookline, and constructing a rigid frame concrete bridge with stone facing over Hammond Pond Parkway in Newton; the surface consisting of reinforced cement concrete on each side of a loam section but separated therefrom by bituminous concrete shoulders. The proposal amounted to \$208,363.00. Work about one-sixth completed. Expenditure during 1933, \$32,506.19.

Conway-Deerfield

Sept. 13, 1933, contract made with Kelleher Corporation, of Montague, for reconstruction about 4,579 feet of State highway on Conway Road in Deerfield, and about 5,630 feet of State highway on the same road in Conway; the surface consisting of bituminous macadam. The proposal amounted to \$206,730.30. Work about one-fourth completed. Expenditure during 1933, \$55,493.00.

Burlington-Winchester-Woburn

Oct. 11, 1933, contract made with M. McDonough Co., of Saugus, for reconstructing about 10,120 feet of State highway on Cambridge Street in Winchester, about 10,537 feet of State highway on the same road in Woburn, and about 19,850 feet of state highway on the same road in Burlington; the surface consisting of bituminous macadam. The proposal amounted to \$121,478.40. Work about one-sixth completed. Expenditure during 1933, \$53,328.19.

Boston-Revere

Oct. 18, 1933, contract made with The Boston Bridge Works, Incorporated, of Cambridge, for constructing two three-span deck steel stringer bridges with reinforced concrete floors in Boston, and a two-span deck plate girder bridge with reinforced concrete floor, and a three-span deck plate girder bridge with reinforced concrete floor, in Revere. The proposal amounted to \$70,379.88. Work just commenced. No expenditure during 1933.

Templeton

Nov. 1, 1933, contract made with The Lane Construction Corporation, of Meriden, Conn., for reconstructing about 15,852 feet of State highway on the Baldwinville-Phillipston Road; the surface consisting of bituminous macadam. The proposal amounted to \$66,464.95. Work just commenced. Expenditure during 1933, \$952.00.

Ashby-Townsend

Nov. 14, 1933, contract made with G. Rotondi & Son, of Melrose, for reconstructing about 21,672 feet of State highway on Ashby Road and Willard Brook Road in Ashby and Townsend; the surface consisting of bituminous macadam. The proposal amounted to \$124,161.74. Work just commenced. Expenditure during 1933, \$1,258.00.

Chester

Nov. 14, 1933, contract made with the National Construction Company, of Everett, for reconstructing 1,624 feet of State highway on the Jacobs Ladder Road; the surface consisting of bituminous macadam. The proposal amounted to \$48,337.45. Work not yet commenced.

Boston-Revere

Nov. 14, 1933, contract made with A. G. Tomasello & Son, Inc., of Boston, for constructing about 6,540 feet of State highway in Boston, and about 5,790 feet of State highway in Revere; the surface consisting of sections of reinforced cement concrete, bituminous macadam, sheet asphalt, and plain cement concrete. The proposal amounted to \$441,168.25. Work not yet commenced.

Sterling-West Boylston

Nov. 14, 1933, contract made with Mario Pandolph Company, Inc., of Needham, for reconstructing about 26,076 feet of State highway on Worcester Street, Sterling Road and West Boylston Road in Sterling and West Boylston; the surface consisting of sections of bituminous macadam with reinforced cement concrete on each side, and bituminous macadam full width. The proposal amounted to \$191,178.50. Work just commenced. Expenditure during 1933, \$2,890.85.

Boston-Revere

Nov. 14, 1933, contract made with Anthony Baruffaldi, of Somerville, for constructing the substructures for two three-span deck steel stringer bridges with reinforced concrete floors in Boston, and the substructure for a three-span deck steel stringer bridge with reinforced concrete floor and a two-span deck steel stringer bridge with reinforced concrete floor in Revere; the surface over the bridges consisting of bituminous concrete. The proposal amounted to \$183,298.25. Work just commenced.

Charlton-Oxford

Nov. 14, 1933, contract made with The Lane Construction Corporation, of Meriden, Conn., for reconstructing about 22,217 feet of State highway on Charleton Road in Oxford, and about 6,600 feet of State highway on Oxford Road in Charlton; the surface consisting of bituminous macadam. The proposal amounted to \$109,669.60. Work not yet commenced.

Marshfield-Scituate

Nov. 15, 1933, contract made with the Lee Construction Co., Inc., of Boston, for reconstructing about 5,996 feet of State highway on Bridge Street in Marshfield, and about 531 feet of State highway on Main Street in Scituate; the surface consisting of bituminous macadam. The proposal amounted to \$86,500.00. Work not yet commenced.

Marshfield-Scituate

Nov. 23, 1933, contract made with the Lee Construction Co., Inc., of Boston, for constructing a creosoted timber pile bridge at the dividing line between the towns of Marshfield and Scituate; the surface on the draw span of the bridge consisting of a structural steel grid floor with a cement concrete filler, and the surface on the rest of the bridge consisting of bituminous concrete. The proposal amounted to \$51,394.75. Work just commenced. Expenditure during 1933, \$493.00.

Easton-Stoughton

Nov. 29, 1933, contract made with Carlo Bianchi and Company, Inc., of Framingham, for reconstructing about 15,550 feet of State highway on Washington Street in Easton, and about 11,460 feet of State highway on the same road in Stoughton; the surface consisting of reinforced cement concrete and bituminous macadam. The proposal amounted to \$143,788.00. Work not yet commenced.

EXPENDITURES FOR CONSTRUCTION OF STATE HIGHWAYS

The expenditures for the construction of State highways in various Counties during the year were:—

Barnstable, \$274,246.73	Hampshire, \$110,545.90
Berkshire, \$20,709.56	Middlesex, \$760,538.27
Bristol, \$324,121.47	Norfolk, \$1,949,595.94
Essex, \$126,070.33	Plymouth, \$374,679.48
Franklin, \$363.10	Suffolk, \$293,992.35
Hampden, \$1,235.14	Worcester, \$100,900.59
	Total, \$4,336,998.86

Details of the foregoing expenditures follow:—

Barnstable County.—Barnstable, \$90,757.30; Bourne, \$130,286.66; Yarmouth, \$53,202.77.

Berkshire County.—Hinsdale, \$88.80; Pittsfield, \$20,620.76.

Bristol County.—No. Attleboro, \$2,692.01; Raynham, \$223,260.81; Seekonk, \$5,502.13; Taunton, \$92,666.52.

Essex County.—Amesbury, \$46,816.33; Lynn, \$396.49; No. Andover, \$5,710.44; Salisbury, \$73,147.07.

Franklin County.—Orange, \$363.10.

Hampden County.—Chester, \$1,235.14.

Hampshire County.—Belchertown, \$2,269.09; Huntington, \$67,328.75; Worthington, \$40,948.06.

Middlesex County.—Arlington, \$18,034.64; Belmont, \$7,003.66; Cambridge, \$3,914.41; Newton, \$731,585.56.

Norfolk County.—Brookline, \$5,742.09; Cohasset, \$138,832.68; Dedham, \$347,302.83; Norwood, \$134,531.98; Quincy, \$21,992.84; Wellesley, \$1,160,443.57; Westwood, \$126,081.94; Weymouth, \$14,668.01.

Plymouth County.—Duxbury, \$723.99; Hingham, \$178,370.06; Kingston, \$228.54; Lakeville, \$26,545.69; Marshfield, \$27.47; Middleboro, \$31,937.19; Pembroke, \$441.26; Scituate, \$136,405.28.

Suffolk County.—Boston, \$100,152.39; Revere, \$193,839.96.

Worcester County.—Athol, \$299.19; Hopedale, \$625.00; Mendon, \$450.62; Milford, \$1,029.52; Oxford, \$30,478.42; Webster, \$35,080.67; Westboro, \$646.73; West Boylston, \$29,595.09; Worcester, \$2,695.35.

EXPENDITURES UNDER THE PROVISIONS OF CHAPTER 119, ACTS OF 1931 Hingham-Hull, \$36.90

EXPENDITURES UNDER THE PROVISIONS OF CHAPTER 122, ACTS OF 1931 For State Highway Construction

Auburn-Worcester	\$86,657.03	Lakeville-Middleboro	\$41,456.15
Erving-Gill	41,142.72	Millbury-Worcester	64,573.75
Erving	1,346.86	Northboro-Shrewsbury	2,013.39
Foxboro-Sharon-Walpole-		Sharon-Norwood-Walpole	40,609.04
Wrentham	22,296.49	Shrewsbury-Worcester	88,897.39
Framingham-Natick	346,894.45	Uxbridge (Ironstone St.)	52,649.74
Framingham-Southboro	28,258.32	Uxbridge (Millville Rd.)	23.00
Gill-Greenfield	52,905.57	Williamstown	535.50
			<hr/>
			\$870,259.40

MAINTENANCE AND REPAIR OF STATE HIGHWAYS

(Section 13, Charter 81, General Laws). The expenditures during the year in various counties were:—

Barnstable, \$192,256.61	Hampshire, \$169,885.06
Berkshire, \$753,907.35	Middlesex, \$394,777.86
Bristol, \$216,890.39	Nantucket, \$110.08
Dukes, \$9,206.57	Norfolk, \$190,129.01
Essex, \$579,420.82	Plymouth, \$326,907.72
Franklin, 154,755.79	Suffolk, \$27,494.52
Hampden, \$180,655.64	Worcester, \$597,084.14
	Total, \$3,793,481.56

Details of the foregoing expenditures follow:—

Barnstable County.—Barnstable, \$8,025.90; Bourne, \$9,436.93; Brewster, \$2,492.80; Chatham, \$3,498.92; Dennis, \$2,719.12; Eastham, \$18,592.83; Falmouth, \$11,210.20; Harwich, \$3,024.81; Mashpee, \$3,519.52; Orleans, \$3,718.03; Provincetown, \$2,040.03; Sandwich, \$9,629.06; Truro, \$2,952.68; Wellfleet, \$3,429.90; Yarmouth, \$107,965.88.

Berkshire County.—Adams, \$6,549.30; Becket, \$14,225.00; Cheshire, \$11,905.28; Clarksburg, \$1,134.65; Dalton, \$8,464.84; Egremont, \$50,-221.36; Florida, \$5,610.14; Great Barrington, \$12,198.25; Hancock, \$233,-708.06; Hinsdale, \$1,615.30; Lanesboro, \$27,802.68; Lee, \$44,112.99; Lenox, \$39,138.88; New Ashford, \$641.30; New Marlboro, \$48.26; No. Adams, \$7,875.35; Otis, \$1,570.42; Pittsfield, \$188,048.32; Richmond, \$1,035.63; Sandisfield, \$1,402.08; Savoy, \$3,801.70; Sheffield, \$4,434.95; Stockbridge, \$40,456.48; Washington, \$1,879.05; West Stockbridge, \$262.32; Williamstown, \$42,107.31; Windsor, \$3,657.45.

Bristol County.—Acushnet, \$1,282.17; Attleboro, \$3,050.62; Berkley, \$3,668.88; Dartmouth, \$2,979.04; Dighton, \$22,407.26; Easton, \$20,-048.18; Fairhaven, \$21,777.44; Fall River, \$80.82; Freetown, \$11,569.93; Mansfield, \$9,906.02; Norton, \$9,362.70; North Attleboro, \$5,228.96; Raynham, \$7,355.08; Rehoboth, \$7,092.48; Seekonk, \$4,522.43; Somerset, \$43,553.31; Swansea, \$11,616.51; Taunton, \$21,868.62; Westport, \$9,-519.94.

Dukes County.—Chilmark, \$1,978.21; Edgartown, \$2,768.07; Gay Head, \$678.88; Oak Bluffs, \$468.68; Tisbury, \$556.50; West Tisbury, \$2,756.23.

Essex County.—Amesbury, \$3,295.02; Andover, \$8,708.24; Beverly, \$6,617.50; Danvers, \$7,918.13; Essex, \$16,205.22; Gloucester, \$6,140.28; Groveland, \$614.65; Hamilton, \$29,870.14; Haverhill, \$12,918.33; Ipswich, \$56,197.20; Lawrence, \$470.30; Lynn, \$2,791.03; Lynnfield, \$13,568.31; Merrimac, \$935.74; Methuen, \$5,484.50; Middleton, \$82,178.11; Newbury, \$130,550.57; Newburyport, \$2,836.36; North Andover, \$28,861.83; Peabody, \$3,986.01; Rockport, \$538.03; Rowley, \$6,218.97; Salem, \$6,-560.91; Salisbury, \$17,771.16; Saugus, \$16,349.41; Swampscott, \$3,388.79; Topsfield, \$5,457.94; Wenham, \$6,176.13; West Newbury, \$96,812.01.

Franklin County.—Ashfield, \$2,497.28; Bernardston, \$2,126.54; Buckland, \$1,872.52; Charlemont, \$11,397.75; Colrain, \$769.38; Conway, \$33,-477.82; Deerfield, \$45,201.89; Erving, \$9,516.95; Gill, \$5,169.96; Greenfield, \$5,072.92; Montague, \$1,885.02; Northfield, \$7,114.30; Orange, \$15,-985.55; Shelburne, \$7,451.65; Sunderland, \$3,075.27; Whately, \$2,140.99.

Hampden County.—Agawam, \$28,216.67; Blandford, \$1,946.01; Brimfield, \$8,856.44; Chester, \$9,785.89; Chicopee, \$1,493.60; East Longmeadow, \$1,010.47; Holland, \$10.29; Holyoke, \$2,327.58; Monson, \$1,-383.15; Palmer, \$10,493.91; Russell, \$7,058.05; Southwick, \$5,139.27; Tolland, \$25.59; Wales, \$7,202.91; Westfield, \$73,275.75; West Springfield, \$8,703.21; Wilbraham, \$13,726.85.

Hampshire County.—Amherst, \$5,284.75; Belchertown, \$73,555.04; Cummington, \$12,297.40; Easthampton, \$927.67; Goshen, \$6,398.87; Granby, \$18,713.20; Hadley, \$2,139.95; Hatfield, \$1,703.88; Huntington, \$7,233.41; Northampton, \$3,830.35; Southampton, \$6,804.27; South Hadley, \$15,983.56; Ware, \$6,309.29; Williamsburg, \$3,055.87; Worthington, \$5,647.55.

Middlesex County.—Acton, \$7,080.81; Arlington, \$12,819.85; Ashby, \$15,791.86; Ashland, \$6,121.39; Ayer, \$2,688.60; Bedford, \$536.20; Billerica, \$20,050.40; Boxboro, \$3,730.20; Burlington, \$35,126.13; Chelmsford, \$18,804.76; Concord, \$4,364.62; Dracut, \$16,827.75; Framingham, \$19,-229.31; Groton, \$33,467.08; Holliston, \$4,788.22; Hudson, \$19,828.32; Lexington, \$3,935.26; Lincoln, \$785.90; Littleton, \$4,774.81; Lowell, \$1,-467.82; Malden, \$89.82; Marlboro, \$8,813.47; Medford, \$518.37; Melrose, \$575.67; Natick, \$6,917.51; Newton, \$4,134.90; North Reading, \$1,835.86; Pepperell, \$15,546.51; Reading, \$7,042.91; Shirley, \$2,648.56; Somerville, \$1,399.40; Stoneham, \$2,191.15; Sudbury, \$7,466.35; Tewksbury, \$19,-778.64; Townsend, \$1,053.82; Tyngsboro, \$5,813.18; Waltham, \$13,148.69; Watertown, \$634.94; Wayland, \$2,969.92; Westford, \$4,265.08; Weston, \$5,259.33; Wilmington, \$5,038.35; Winchester, \$25,853.50; Woburn, \$19,-562.64.

Nantucket County.—Nantucket, \$110.08.

Norfolk County.—Avon, \$1,330.64; Bellingham, \$4,015.17; Braintree, \$28,009.75; Canton, \$3,728.77; Cohasset, \$1,771.75; Dedham, \$21,429.67; Dover, \$929.17; Foxboro, \$2,340.39; Franklin, \$1,166.31; Holbrook, \$12,848.17; Milton, \$19,182.98; Needham, \$11,149.05; Norfolk, \$439.14; Norwood, \$6,048.11; Plainville, \$3,767.52; Quincy, \$1,850.36; Randolph, \$7,391.72; Sharon, \$1,162.12; Stoughton, \$12,552.02; Walpole, \$5,996.38; Wellesley, \$5,612.27; Westwood, \$3,407.97; Weymouth, \$19,129.93; Wrentham, \$14,869.65.

Plymouth County.—Abington, \$3,116.79; Bridgewater, \$1,609.49; Brockton, \$5,388.06; Duxbury, \$2,261.91; East Bridgewater, \$7,559.53; Hanover, \$1,746.55; Hingham, \$6,631.30; Hull, \$448.21; Kingston, \$1,145.62; Lakeville, \$11,759.96; Marion, \$2,193.78; Marshfield, \$2,804.70; Mattapoisett, \$70,771.40; Middleboro, \$84,403.85; Norwell, \$2,002.43; Pembroke, \$1,785.72; Plymouth, \$9,044.18; Rochester, \$9,534.24; Rockland, \$1,223.24; Scituate, \$4,618.04; Wareham, \$77,517.13; West Bridgewater, \$1,404.74; Whitman, \$17,936.85.

Suffolk County.—Boston, \$3,155.99; Chelsea, \$696.38; Revere, \$23,642.15.

Worcester County.—Ashburnham, \$9,560.22; Athol, \$3,503.58; Auburn, \$6,522.39; Barre, \$2,809.68; Blackstone, \$8,110.17; Brookfield, \$2,027.55; Charlton, \$37,884.67; Clinton, \$10.88; Douglas, \$446.72; Dudley, \$2,643.10; East Brookfield, \$3,149.27; Fitchburg, \$2,023.86; Gardner, \$2,218.46; Grafton, \$10,998.41; Hardwick, \$272.71; Harvard, \$15,823.49; Holden, \$6,265.11; Hopedale, \$158.64; Lancaster, \$13,885.66; Leicester, \$2,154.36; Leominster, \$803.84; Lunenburg, \$2,239.22; Mendon, \$3,407.11; Milford, \$1,998.67; Millbury, \$3,125.93; Millville, \$13,579.76; New Braintree, \$77.05; North Brookfield, \$512.71; Northboro, \$18,817.60; Northbridge, \$3,239.60; Oakum, \$76,115.60; Oxford, \$109,961.69; Paxton, \$5,626.80; Petersham, \$2,854.19; Phillipston, \$840.68; Princeton, \$19,445.27; Rutland, \$25,921.45; Shrewsbury, \$50,768.77; Southboro, \$3,939.61; Southbridge, \$1,706.35; Spencer, \$2,294.83; Sterling, \$4,567.89; Sturbridge, \$5,219.65; Sutton, \$6,890.82; Templeton, \$5,780.34; Upton, \$5,601.49; Uxbridge, \$15,990.51; Warren, \$1,801.99; Webster, \$17,819.61; West Boylston, \$6,339.53; West Brookfield, \$1,204.57; Westboro, \$7,532.56; Westminster, \$8,957.94; Winchendon, \$14,694.51; Worcester, \$16,937.07.

Miscellaneous expenditures are as follows:—

Truck repairs	\$14,010.15	
Truck operation	3,038.90	
Truck plow repairs	17,547.28	
Tractor repairs	11,673.15	
Tractor operation	2,535.20	
Tractor plow repairs	12,946.41	
Snow fence	1,048.33	
Expenditures under towns	443,269.84	
		\$506,069.26
Warning signs	18,388.70	
Direction signs	51,534.42	
Regulatory signs	1,189.66	
Control signals	50,622.07	
Traffic survey	22,600.77	
Traffic permits	1,021.45	
Traffic census	8,614.41	
		153,971.48
Somerset Bridge	16,703.60	
Newburyport Bridge	11,350.43	
Fairhaven-New Bedford Bridge	14,486.01	
		42,540.04

30	P. D. 54
Detour bulletins	1,154.15
Construction of D St. garage	40,802.91
Heating Plant at D St. garage	7,093.80
Total of miscellaneous expenditures	\$751,631.64

REMOVAL OF SNOW AND ICE FROM STATE HIGHWAYS

The authority of the Department relative to the removal of snow and ice from State highways has been provided by section 19, chapter 81, General Laws, as amended.

The cooperation of the Department with officers of cities, towns and counties, in keeping open and reasonably passable for vehicles during the winter months such highways as may be selected by the Department is provided for in section 11, chapter 84, General Laws, as amended.

In accordance with the provisions of these laws, the Department selected 1,768 miles of highways on the principal routes of travel, 1,612 miles of which are State highways and 156 miles town highways.

The work of snow removal on these routes is performed in a large part by the trucks and tractors owned and operated by the Department, but certain towns and cities, by agreement with the Department, perform part of the work of snow removal on the portions of the routes within their limits. All of this work is done under the direction and supervision of the Department.

The expenditures by the Department for snow removal during the year under the provisions of both the above-mentioned laws amounted to a total of \$506,069.26, which includes the cost of maintenance and repair of the equipment, actual cost of plowing and purchase of materials, such as calcium chloride and sand for use on icy conditions of the road surfaces.

UNIFORM TRAFFIC SIGNS, LIGHTS, MARKINGS, SIGNAL SYSTEMS AND REGULATIONS

Authority and jurisdiction relating to the erection of traffic signs, lights, markings, signal systems and regulations on highways within the Commonwealth was placed in the Department of Public Works by chapter 257 of the Acts of 1928. The Department is thereby enabled to insure that all traffic control signals to be erected by the municipalities shall conform to standards adopted by the Department and cooperates with the cities and towns for the purpose of properly locating and operating such signals. All through ways desired by the municipalities must first be approved by the Department before such may become effective.

In order to secure uniformity in the matter of traffic control, the Department has issued four bulletins which present the standards required to be met by the cities and towns of the State for the installation and maintenance of traffic signs, signals and devices and traffic regulations for the control of traffic.

TRAFFIC CONTROL SIGNALS AND REGULATIONS APPROVED

During the year the Department has issued permits to cities and towns for the following traffic control features:

	In 1933
Traffic Signals, at intersections	141
Traffic Beacons	9
Through Ways	2
Traffic Signs and Markings	57
Traffic Rules and Regulations	82
Isolated Stop Signs	97

Such information included the type of district, layout of the roadway, means of traffic control, atmospheric conditions, light conditions, condition of roadway, physical obstructions in the roadway and obstructions

to view. This information is required in reports submitted to the Registry of Motor Vehicles and is supplied to the traffic engineering section for study.

DIRECTION SIGNS, ROUTE MARKERS, WARNING SIGNS AND TRAFFIC CONTROL SIGNALS ERECTED BY DEPARTMENT

The Department has given a great deal of study to the determination of the important routes of travel for the purpose of marking and furnishing direction signs as aids for traveling.

The placing of route numbers and direction signs at points of advantage on these designated highways is done by the Department both on State highways and on city and town ways, permission for the latter being obtained from the local authorities. Warning signs and traffic control signals which are erected and maintained by the Department are placed only on State highways.

At locations where the hazard was particularly great and where traffic signals could not be used, neon tubes forming the legend were erected. This type of sign is especially advantageous on foggy nights since it has greater penetrating power than any light or reflector unit.

The manufacture of many of these signs and the erection and maintenance of all of these signs and signals are part of the highway maintenance activities.

TRAFFIC ACCIDENT STUDIES

Studies have been continued to ascertain the attendant circumstances and physical characteristics at points on the highways where accidents have occurred, in order to measure the effectiveness of control or lack of control of traffic movements at such points.

TRAFFIC COUNT

In 1909 the Massachusetts Highway Commission commenced recording by actual count the number and types of vehicles on the important State highways and since that time traffic counts have been taken every three years. The Department now obtains information not only for State highways but also for other important routes.

Only seventeen stations selected for the traffic counts of the various years have been identical throughout this study. The growth of traffic volume is indicated by the following tabulation, which gives the average number of vehicles per day per station for these seventeen stations.

Year of Count	Average number of vehicles per day per station
1909	364
1912	631
1915	920
1918	1676
1921	2465
1924	4517
1927	4977
1930	6468
1933	5481

The reduction during 1933 is due probably to the fact that three of these stations are now on by-passed routes.

The traffic count of this year is taken at stations, principally intersections, on the various numbered routes. The tabulation below gives the average number of vehicles per day for an average day and for an average Sunday in August. Other data obtained but not printed herewith is used by the Department in various studies of highway traffic problems. The districts mentioned in tabulations are those outlined at the beginning of the report of the Department.

MOTOR VEHICLE TRAFFIC AT INTERSECTIONS ON NUMBERED AUTOMOBILE ROUTES

The figures given below are calculated values based upon actual counts as modified by the daily variation factors of the key stations.

Sta. No.	Town	Routes	Number of Vehicles per average Day in August		Number of Vehicles per average Sunday in August	
			1930	1933	1930	1933
DISTRICT 1						
4	Adams	116	—	1,012	—	499
22	Becket	8-20	2,357	2,578	4,173	5,015
22A	Becket	8-20	2,109	—	3,909	—
		Otis Rd.				
33	Blandford	North St.	—	3,095	—	4,240
58	Cheshire	8	—	4,071	—	5,272
63	Clarksburg	8	1,523	—	2,223	—
70	Dalton	8-9	5,578	5,374	7,343	6,675
92	Egremont	17-41	2,421	2,668	3,118	3,467
116	Gr. Barrington	7-17	7,562	—	9,736	—
116A	Gr. Barrington	7-118	7,548	—	9,713	—
116B	Gr. Barrington	7	6,922	7,187	8,907	9,117
116C	Gr. Barrington	17-41	3,168	3,158	4,080	4,107
125	Hancock	2	453	—	603	—
136	Hinsdale	8-143	3,646	2,051	4,818	2,364
147	Huntington	66-112	676	631	1,195	727
147A	Huntington	20-112	5,224	3,672	9,139	5,029
152	Lanesboro	7	3,183	2,588	4,289	3,343
154	Lee	20-102	4,629	5,014	5,861	6,367
156	Lenox	7-20	7,339	7,652	9,372	10,235
156A	Lenox	20	—	—	—	—
156B	Lenox	7-20	7,465	7,872	9,529	10,547
213	No. Adams	2	—	—	—	—
213A	No. Adams	8	4,860	—	7,143	—
213B	No. Adams	2-8	—	5,961	—	7,158
229	Otis	8	1,136	1,351	2,032	1,850
240	Pittsfield	8-9	14,278	8,750	19,059	11,332
240A	Pittsfield	20-41	5,266	5,370	4,639	6,956
260	Russell	20	3,825	5,712	7,092	7,822
265	Sandisfield	8	—	909	—	1,244
272	Sheffield	7	3,586	3,527	3,527	4,587
288	Stockbridge	7-141	6,606	—	8,507	—
288A	Stockbridge	141	2,731	—	3,782	—
288B	Stockbridge	102-183	—	1,552	—	2,079
338	W. Stockbridge	41-102	1,393	1,324	1,836	1,775
346	Williamstown	7	4,821	—	6,500	—
346A	Williamstown	7-43	2,961	2,422	4,093	2,904
346B	Williamstown	2-7	13,352	—	18,466	—
346D	Williamstown	2-7	1,415	3,072	1,912	3,683
346C	Williamstown	2-7	—	6,198	—	7,431
350	Windsor	109	2,917	—	3,853	—
354	Worthington	112-143	1,519	881	2,033	1,012
354A	Worthington	112-109-A	—	—	—	—
DISTRICT 2						
5	Agawam	Alt. 5	5,051	4,472	6,761	5,078
8	Amherst	9 & 116	5,059	4,116	7,036	5,225
13	Ashfield	112 & 116	1,326	1,028	2,266	1,356
13A	Ashfield	112 & 116	—	353	—	473
24	Belchertown	21 & 139	—	1,462	—	1,907
24A	Belchertown	21	3,549	2,719	5,486	3,888
29	Bernardston	5 & 10	4,795	4,225	7,666	6,071
47	Buckland	2 & 112	4,628	3,274	7,508	4,841
66	Colrain	56	—	875	—	1,295
69	Cummington	9 & 112	1,588	1,755	2,090	2,255
75	Deerfield	5-10-116	7,198	6,943	11,322	9,153
75A	Deerfield	116	—	—	—	—
83	Easthampton	10	7,258	7,588	10,145	9,954
88A	Easthampton	5	9,562	9,251	13,374	12,150
89	East Longmeadow	83	—	3,285	—	3,731
93	Enfield	21-109	2,606	—	4,188	—
94	Erving	2-63	—	—	—	—
111	Goshen	109-112	2,968	—	3,921	—
117	Greenfield	2	7,049	—	11,194	—
117A	Greenfield	5-10	6,684	10,684	7,868	11,305
117B	Greenfield	5-10	7,502	11,992	6,293	9,043
117C	Greenfield	2-2-A	—	5,651	—	8,782
121	Hadley	9	4,331	—	7,010	—
121A	Hadley	9	—	4,332	—	6,145
141	Holyoke	5	12,661	12,804	17,012	14,516
141A	Holyoke	5	—	—	—	—
141B	Holyoke	5	15,792	26,244	18,978	24,900
214	Northampton	5-10	9,470	—	14,814	—

Sta. No.	Town	Routes	Number of Vehicles per average Day in August		Number of Vehicles per average Sunday in August	
			1930	1933	1930	1933
214A	Northampton	5-10	—	4,726	—	6,699
220	Northfield	10-63	2,844	2,062	4,237	2,963
227	Orange	2-78	4,484	4,004	6,062	6,178
283	So. Hadley	116-139	6,794	7,117	7,558	8,509
284	Southwick	10-57	3,810	3,823	5,014	5,235
286	Springfield	5	—	—	—	—
286A	Springfield	20 21	9,207	12,399	12,338	14,082
286B	Springfield	20-20A	11,049	—	14,855	—
286C	Springfield	5-21	11,221	12,046	15,036	13,680
294	Sunderland	63-116	—	2,171	—	2,249
314	Ware	32-109	7,422	—	11,925	—
314A	Ware	9-32	—	4,059	—	5,782
330	Westfield	10	—	—	—	—
330A	Westfield	20	7,983	—	10,693	—
330B	Westfield	10-139	3,424	3,890	4,589	4,380
337	W. Springfield	5-20	18,320	21,041	24,555	24,106
337A	W. Springfield	5-20A	26,131	—	35,031	—
337B	W. Springfield	20-57	12,514	13,490	16,761	15,456
337C	W. Springfield	20	—	11,224	—	12,847
344	Wilbraham	20	7,032	—	11,153	—
345	Williamsburg	9-143	2,481	2,153	3,285	2,672

DISTRICT 3

11	Ashburnham	118	1,110	1,637	1,971	2,559
15	Athol	2-32	6,526	5,176	9,067	8,109
15A	Athol	2	7,546	—	10,128	—
15B	Athol	2	—	5,758	—	8,882
17	Auburn	12	9,543	8,259	12,995	11,768
17A	Auburn	12-20	—	12,537	—	16,804
21	Barre	32-122	2,430	3,603	1,690	2,840
21A	Barre	32-67	1,557	2,321	1,090	1,832
28	Berlin	62	2,160	2,664	2,305	3,726
34	Bolton	117	1,644	2,372	1,554	2,517
34A	Bolton	110-117	2,647	3,817	3,354	5,424
39	Boylston	70	3,574	5,630	2,573	3,982
43	Brimfield	19-20	3,133	4,965	5,187	7,592
54	Charlton	20-93	4,195	6,664	8,800	12,040
71	Dana	21	—	713	—	1,113
81	Dudley	12-197	5,684	6,810	8,869	9,567
86	E. Brookfield	9-67	6,827	5,455	10,826	7,123
100	Fitchburg	2-12	10,696	9,895	19,275	15,366
100A	Fitchburg	2-120	7,706	5,592	13,368	8,683
106A	Fitchburg	2-68	9,019	—	13,511	—
113	Grafton	122-140	5,220	5,142	9,782	8,458
113A	Grafton	30-122	5,608	10,389	5,650	9,294
113B	Grafton	122-122A	6,087	5,832	9,002	9,594
129	Harvard	110-111	2,894	2,618	5,882	4,258
138	Holden	68-122A	2,664	1,727	3,707	2,697
138A	Holden	122A	4,592	3,505	6,385	5,476
138B	Holden	120-122A	5,617	3,695	7,816	5,772
144	Hubbardston	62-68	—	5,245	—	8,150
155	Leicester	9	9,445	7,501	15,161	11,060
157	Leominster	12	7,889	7,155	12,652	10,784
157A	Leominster	13	—	3,248	—	4,896
166	Lunenburg	2-2A	3,979	3,484	8,104	5,457
166A	Lunenburg	2-13	5,847	5,685	11,910	8,684
183	Mendon	126	3,239	2,550	5,116	5,375
189	Mildford	109-126	5,416	4,363	7,859	9,422
189A	Milford	140	2,697	2,709	4,055	4,784
189B	Milford	126-140	—	6,110	—	7,602
190	Millbury	122A	4,890	6,021	6,666	9,905
192	Millville	122	5,044	—	7,456	—
195	Monson	32	1,168	1,017	1,851	1,460
217	Northboro	9-20	—	13,091	—	20,773
217A	Northboro	20	—	6,714	—	9,938
218	Northbridge	122	5,041	5,026	6,505	6,239
230	Oxford	12-20	7,803	12,075	11,845	17,169
230A	Oxford	12	6,205	—	8,487	—
231	Palmer	20	6,094	5,929	10,150	8,979
231A	Palmer	32	2,355	2,467	3,922	3,514
231B	Palmer	32	2,240	2,173	3,729	3,290
232	Paxton	122	—	2,260	—	3,809
238	Petersham	32	1,869	1,757	2,786	2,953
246	Princeton	64-120	877	1,250	1,392	1,934
246A	Princeton	64-120	758	—	1,194	—
B	Quinebaug, Conn.	131-197	1,918	2,445	2,993	3,459
262	Rutland	122-122A	3,071	1,417	4,577	2,382
276	Shrewsbury	9	19,070	16,884	30,771	27,042
		{Main St.	12,701	6,946	20,492	10,982
276A	Shrewsbury	{Maple Ave.	—	12,110	—	16,909
276B	Shrewsbury	9	—	6,304	—	9,714
276C	Shrewsbury	20	—	—	—	—

Sta. No.	Town	Routes	Number of Vehicles per average Day in August		Number of Vehicles per average Sunday in August	
			1930	1933	1930	1933
281	Southboro	30-85	2,279	2,009	3,738	3,278
281R	Southboro	9	-	10,345	-	16,858
282	Southbridge	124A	3,438	-	5,853	-
282A	Southbridge	93-131	3,204	4,039	5,452	5,714
287	Sterling	12-62	3,747	3,512	6,009	5,294
287A	Sterling	62-64	-	1,840	-	2,847
292	Sturbridge	20	-	5,475	-	7,854
292A	Sturbridge	15-131	4,127	7,241	6,558	9,635
292B	Sturbridge	131	2,535	-	4,026	-
Manchaug Rd. Hartford T'npike						
295	Sutton	Rt. 2	-	918	-	1,300
299	Templeton	2-32	5,187	4,382	7,269	6,803
299A	Templeton	32	4,456	3,601	6,245	5,591
299B	Templeton	140	5,903	2,711	8,266	4,209
308	Upton	122-146	-	-	-	-
309	Uxbridge	32	-	4,014	-	4,253
311	Wales	19	-	-	-	-
316	Warren	12-193	-	3,070	-	4,648
321	Webster	135	-	5,644	-	7,929
326	Westboro	9-30	1,957	789	3,213	1,247
326A	Westboro	9	1,998	10,065	3,277	16,421
326B	Westboro	12-110	-	11,058	-	18,104
327	W. Boylston	12-64	4,938	5,252	7,826	8,145
327A	W. Boylston	9-19	6,863	-	10,886	-
329	W. Brookfield	2	5,793	4,368	9,206	6,415
333	Westminster	2-64	-	-	-	-
333A	Westminster	64	7,163	6,890	10,033	10,696
333B	Westminster	12-64	-	1,061	-	1,647
348	Winchendon	32	2,480	2,670	3,449	4,171
348A	Winchendon	12-32	1,546	1,469	2,102	2,281
348B	Winchendon	122	7,219	5,085	10,104	7,895
353	Worcester	12	4,895	-	7,297	-
353A	Worcester	20	10,131	-	16,058	-
353B	Worcester	20	-	8,139	-	12,541
353C	Worcester	20	-	7,566	-	11,659
DISTRICT 4						
10	Arlington	2-3	-	15,664	-	21,644
12	Ashby	31-26-119	2,595	2,215	5,278	4,364
14	Ashland	135	3,642	-	6,054	-
19	Ayer	2	5,208	4,863	10,819	7,619
19A	Ayer	2-110-111	5,704	6,427	11,622	10,097
23	Bedford	2A-4-62	7,779	7,646	15,528	13,733
23A	Bedford	2A-4-62	8,101	7,628	16,734	13,959
23B	Bedford	2A-4	-	6,981	-	12,577
31	Billerica	3	5,874	4,019	11,039	7,649
48	Burlington	3-62	7,403	7,307	12,785	12,088
48A	Burlington	3-62	6,047	5,851	10,444	10,101
49	Cambridge	2-3	30,013	28,409	25,594	39,256
51	Carlisle	2A-126	1,372	2,154	2,740	3,879
56	Chelmsford	3-4-126	10,936	9,576	18,842	14,281
56A	Chelmsford	4-110	13,653	11,169	27,247	20,173
56B	Chelmsford	3	12,697	-	19,353	-
56C	Chelmsford	4-126	6,761	4,619	13,494	8,319
67	Concord	2-111	5,457	6,256	13,554	9,988
67A	Concord	117-126	2,252	1,966	4,870	2,752
67B	Concord	2	-	-	-	-
67C	Concord	2-62	8,519	9,733	21,162	15,539
67D	Concord	62	3,493	-	8,285	-
67E	Concord	62-126	-	11,601	-	16,016
67F	Concord	27-126	-	5,823	-	7,123
80	Dracut	113	-	1,556	-	2,328
103	Framingham	115	8,429	-	14,245	-
103A	Framingham	126-135	20,306	26,770	33,462	43,308
103B	Framingham	30	-	4,979	-	8,124
103C	Framingham Ctr.	9-126	-	17,540	-	23,818
103D	Framingham	9-30	-	13,369	-	21,811
103E	Framingham	9	-	12,196	-	19,898
119	Groton	2A-119	2,029	2,141	4,130	3,779
119A	Groton	2A-119	3,024	3,563	6,153	6,289
119B	Groton	111-119	2,992	2,869	6,088	5,010
140	Holliston	16-126	5,245	2,889	5,654	3,120
143	Hopkinton	85-135	2,709	2,513	4,216	2,713
145	Hudson	85	4,607	3,850	7,505	5,360
159	Lexington	2-128	11,048	11,482	25,697	15,797
159A	Lexington	2A	-	-	-	-
159B	Lexington	2	13,865	13,382	33,659	19,183
159C	Lexington	2-2A4	21,964	12,988	36,977	17,947
159D	Lexington	2	6,822	-	15,805	-
159E	Lexington	128	5,601	-	13,601	-
159F	Lexington	2A-4-128	-	15,939	-	21,531
161	Lincoln	117	4,591	-	7,699	-

Sta. No.	Town	Routes	Number of Vehicles per average Day in August		Number of Vehicles per average Sunday in August	
			1930	1933	1930	1933
161A	Lincoln	27-117	-	2,574	-	3,148
162						
162A	Littleton	2-110-119	9,334	8,983	16,586	14,604
164	Lowell	28-133	9,539	8,847	14,497	11,234
164A	Lowell	113	10,721	-	16,296	-
169	Malden	1-60	26,731	26,018	44,695	40,464
174	Marlboro	20	11,019	5,899	15,406	8,565
174A	Marlboro	20	12,442	7,488	17,397	10,872
174B	Marlboro	20-85	-	11,223	-	16,295
174C	Marlboro	20-85	-	13,426	-	19,495
178	Maynard	62-117	3,352	3,231	5,499	4,499
180	Medford	28	12,011	-	19,821	-
180A	Medford	1-28	60,524	57,003	99,942	90,022
180B	Medford	23-60	-	23,436	-	37,010
180C	Medford	38-60	-	17,387	-	27,032
202	Natick	135	10,682	-	15,531	-
202A	Natick	115	5,173	-	7,526	-
202B	Natick	27-135	-	16,626	-	27,131
202C	Natick	9	-	10,867	-	17,674
202D	Natick	9	-	10,779	-	17,586
202E	Natick	9	-	11,599	-	18,923
202F	Natick	135	-	7,744	-	18,088
202G	Natick	9	-	11,868	-	19,362
211	Newton	20A-128	-	-	-	-
211A	Newton	16	11,406	13,047	18,607	21,259
211B	Newton	115-A-128	-	-	-	-
211C	Newton	115-128	-	-	-	-
211D	Newton	30	12,156	12,405	15,605	20,239
211E	Newton	9	-	14,074	-	22,961
211F	Newton	9	-	15,275	-	24,919
211G	Newton	9	-	13,734	-	22,411
211H	Newton	-	-	-	-	-
211I	Newton	9	-	11,905	-	19,422
211J	Newton	30-128	15,077	13,083	24,958	21,346
211K	Newton	16-128	12,019	14,894	19,609	24,298
211L	Newton	9-128	12,636	25,133	20,615	40,930
221	No. Raeding	26-62	9,798	12,084	15,993	19,084
221A	No. Raeding	28-62	9,613	11,801	15,940	18,758
236	Pepperell	113-119	1,566	1,761	3,187	3,109
236A	Pepperell	111-113	-	2,606	-	4,599
251	Reading	28	10,612	-	17,519	-
274	Sherborn	16-27	2,102	2,018	3,654	2,179
274A	Sherborn	16-27	-	2,130	-	2,299
279	Somerville	1-28-38	21,828	23,276	46,783	44,655
289	Stoneham	28-128	-	19,999	-	31,583
291	Stow	62-117	2,891	2,513	4,743	3,499
293	Sudbury	20-126	10,036	4,917	16,342	7,140
293A	Sudbury	20-126	9,635	5,237	15,809	7,605
293B	Sudbury	126	3,224	2,377	5,290	3,413
293C	Sudbury	117	-	-	-	-
300	Tewksbury	38	3,915	4,460	5,946	5,662
304	Townsend	13-119	-	3,289	-	5,805
306	Tyngsboro	3-113	9,106	8,217	15,632	12,295
306A	Tyngsboro	3-113	8,463	-	14,528	-
306B	Tyngsboro	113	-	2,540	-	3,799
313	Waltham	20-117	19,068	12,845	27,167	16,705
313A	Waltham	20-60	23,510	19,088	33,496	27,146
320	Wayland	20-27	11,409	8,309	18,522	11,572
320A	Wayland	27-30	-	6,123	-	8,220
322	Wellesley	9	5,168	16,348	7,515	26,670
322A	Wellesley	9-16	15,679	22,844	22,794	22,991
322B	Wellesley	135	8,864	12,439	12,887	20,295
322C	Wellesley	16-135	13,521	17,908	19,656	29,205
322D	Wellesley	16-135	13,008	16,286	18,911	25,432
322E	Wellesley	9	-	12,524	-	20,432
322F	Wellesley	9	-	11,835	-	18,486
322G	Wellesley	9	-	12,351	-	16,738
322H	Wellesley	2-A-110	4,287	3,973	7,177	6,855
331	Westford	110	3,810	-	6,381	-
331A	Westford	2A-110	-	3,563	-	6,147
331B	Westford	2A-110	-	3,685	-	6,353
331C	Westford	20-20A	13,346	-	19,495	-
335	Weston	30	5,903	5,344	9,632	8,611
335A	Weston	20	-	7,267	-	11,389
335B	Weston	38-129	6,548	6,194	11,309	10,637
347	Wilmington	38-62	7,638	7,310	13,193	11,984
347A	Wilmington	3-128	8,682	9,759	16,313	13,133
352	Woburn	38-128	15,258	17,979	37,317	24,142
352A	Woburn					

Sta. No.	Town	Routes	Number of Vehicles per average Day in August		Number of Vehicles per average Sunday in August	
			1930	1933	1930	1933
DISTRICT 5						
7	Amesbury	110	7,699	9,885	10,222	13,863
7A	Amesbury	110	4,672	6,028	5,977	8,455
9	Andover	28-133	13,395	19,234	20,776	30,565
9A	Andover	28	—	—	—	—
9B	Andover	28-125	—	12,486	—	19,969
30	Beverly	127	—	—	—	—
30A	Beverly	1-A-97	9,395	7,557	16,336	11,921
30B	Beverly	1-A-62	12,152	13,645	21,130	21,514
30C	Beverly	1-A-22-127	22,391	29,015	38,933	45,748
30D	Beverly	127	9,574	9,158	16,647	14,444
72	Danvers	1-114	16,562	15,866	27,969	24,966
72A	Danvers	1-62	16,360	14,839	27,202	21,651
95	Essex	121	4,386	6,039	7,339	9,688
95A	Essex	Western and Northern Ave.	—	—	—	—
95B	Essex	22-121	6,602	5,462	9,993	8,737
108	Georgetown	97-133	3,728	5,508	6,518	8,822
108A	Georgetown	97-133	1,789	2,335	8,128	3,741
110	Gloucester	121-127	16,287	14,146	30,725	22,443
120	Groveland	97-125	6,091	5,669	8,661	8,463
123	Hamilton	1A	—	—	—	—
132	Haverhill	108-110	10,596	12,235	18,738	19,598
148	Ipswich	1A-121	6,199	6,084	11,032	9,569
148A	Ipswich	1	—	—	—	—
167	Lynn	1A	15,371	—	26,726	—
167A	Lynn	1A-129	—	—	—	—
167B	Lynn	107	11,057	9,922	19,225	15,643
167C	Lynn	1A-129	—	22,134	—	34,898
168	Lynnfield	1-128	21,735	21,682	36,347	33,484
168A	Lynnfield	128	—	—	—	—
172	Marblehead	129	9,525	12,685	16,562	19,999
185	Methuen	28-113	15,078	13,124	24,477	21,150
185A	Methuen	110	—	—	—	—
185B	Methuen	110	8,957	6,518	15,494	10,496
185C	Methuen	110	7,331	6,523	12,686	10,565
188	Middleton	62-114	8,376	5,621	11,244	9,739
207	Newbury	1	—	—	—	—
207A	Newbury	1A	—	—	—	—
208	Newburyport	1-1A	13,093	16,955	24,771	23,823
208B	Newburyport	125	5,638	5,047	8,023	7,535
215	N. Andover	114-133	4,319	5,358	7,472	6,584
215A	N. Andover	125-133	5,867	6,099	9,739	9,771
215B	N. Andover	114-125	7,773	8,248	13,339	13,336
215C	N. Andover	125-133	5,955	—	9,887	—
215D	N. Andover	125-133	6,029	7,161	12,995	11,471
215E	N. Andover	114-125	—	6,449	—	10,777
233	Peabody	1	—	—	—	—
233A	Peabody	128	10,863	11,360	19,154	17,911
233B	Peabody	114	7,991	10,753	14,090	16,954
253	Revere	1A	18,068	15,001	31,417	23,651
253A	Revere	1A	25,839	27,188	44,929	42,867
253B	Revere	1A-60	18,643	18,510	32,419	29,185
253C	Revere	1A-107	51,765	41,303	90,011	65,121
253D	Revere	60-107	21,916	21,219	38,107	33,450
253E	Revere	60-107	24,107	19,308	41,920	30,441
257	Rockport	127	5,473	5,302	10,203	8,413
259	Rowley	1-133	9,784	11,488	13,543	17,515
259A	Rowley	1	—	—	—	—
259B	Rowley	1A-133	3,710	3,659	5,136	5,732
259C	Rowley	1A	—	—	—	—
263	Salem	1A	11,254	10,925	19,570	17,224
263A	Salem	1A	—	—	—	—
263B	Salem	1A-129	13,109	12,010	23,285	18,937
263C	Salem	107-128	8,509	18,510	14,793	19,244
264	Salisbury	1-1A	15,706	15,597	22,342	23,281
264A	Salisbury	1A	5,821	5,823	5,691	4,214
267	Saugus	1-129	14,489	16,716	24,320	25,815
267A	Saugus	1	—	—	—	—
267B	Saugus	1	14,794	11,882	24,733	18,351
267C	Saugus	1	—	15,258	—	23,564
303	Topsfield	1-97	11,135	11,528	18,518	17,576
303A	Topsfield	1	—	—	—	—
303B	Topsfield	1	10,471	10,949	17,414	16,693
334	W. Newbury	125	3,002	3,832	4,272	4,284
E	Seabrook, N. H.	1-110	9,208	11,977	9,005	17,152
DISTRICT 6						
3	Acushnet	105	1,221	1,186	2,123	1,772
16	Attleboro	1-123	11,012	8,922	16,595	12,305
16A	Attleboro	1A-123	—	6,671	—	8,805
18	Avon	28	—	—	—	—

Sta. No.	Town	Routes	Number of Vehicles per average Day in August		Number of Vehicles per average Sunday in August	
			1930	1933	1930	1933
25	Bellingham	140	3,288	3,054	5,151	5,394
35	Boston	3	60,839	41,639	87,294	66,236
35A	Boston	1	—	9,749	—	13,361
40	Braintree	37-128	10,275	11,067	17,147	19,353
40A	Braintree	37-128	9,956	10,796	16,615	18,880
50	Canton	128-138	15,300	15,134	27,261	20,889
53A	Canton	138	13,901	—	23,745	—
70	Dartmouth	6	9,433	9,551	14,371	11,883
74	Dedham	11	13,946	17,050	20,226	23,367
74A	Dedham	1	12,886	—	18,689	—
74B	Dedham	128-137	9,109	—	13,063	—
74C	Dedham	11-135	16,064	14,953	22,884	20,492
74D	Dedham	109-128	—	10,417	—	17,131
74E	Dedham	11-128	—	18,466	—	26,939
74F	Dedham	1-1A	—	—	—	—
77	Dighton	138	5,341	—	7,235	—
90	Easton	123-138	10,644	9,366	17,748	13,300
90A	Easton	106-123	2,844	—	4,750	—
90B	Easton	106-123	1,604	2,282	2,679	3,960
90C	Easton	106-138	9,192	8,579	15,530	12,592
90D	Easton	138 z	10,695	—	17,422	—
90E	Easton	138	10,969	—	18,739	—
97	Fairhaven	6	10,465	8,499	18,726	12,698
97A	Fairhaven	6	10,291	—	17,907	—
98	Fall River	138	14,322	12,661	21,819	15,750
102	Foxboro	140	4,540	—	7,067	—
102A	Foxboro	1	—	6,981	—	11,275
104	Franklin	140	—	—	—	—
104A	Franklin	140	5,422	5,181	8,473	9,149
105	Freetown	18,140	4,004	4,281	7,161	7,542
137	Holbrook	37	7,987	—	13,639	—
171	Mansfield	106	1,939	—	3,332	—
171A	Mansfield	140	4,592	4,853	7,902	8,422
179	Medfield	27-109	4,943	3,408	6,732	3,679
181	Medway	109	3,052	2,430	4,429	2,623
181A	Medway	137	—	—	—	—
191	Millis	137	3,181	—	4,616	—
193	Milton	28-135	5,828	9,239	9,723	11,566
193A	Milton	28	3,735	—	6,460	—
193B	Milton	135-138	14,372	9,698	24,546	13,753
193C	Milton	28-138	29,169	—	49,831	—
203	Needham	128-135	5,817	—	8,439	—
203A	Needham	Hunnewell St. Highland Ave.	6,298	—	10,121	—
203B	Needham	128	—	7,703	—	12,668
216	N. Attleboro	1	—	—	—	—
216A	N. Attleboro	1-150	11,213	11,432	16,578	16,329
222	Norton	123-140	—	4,829	—	8,381
242	Plainville	1	—	—	—	—
248	Quincy	3	17,518	17,382	24,256	20,819
248A	Quincy	28-128	4,742	12,001	7,795	17,059
249	Randolph	28	7,084	—	11,821	—
250	Raynham	102	2,104	—	3,552	—
250A	Raynham	138	7,772	—	12,971	—
270	Seekonk	Mink St. School St.	2,354	2,616	3,886	3,718
270A	Seekonk	6	16,093	—	26,565	—
270B	Seekonk	101	9,788	8,328	14,899	1,184
270C	Seekonk	6	—	14,632	—	20,804
271	Sharon	15	5,493	—	8,285	—
278	Somerset	6-138	18,691	20,438	28,493	25,738
278A	Somerset	103	7,174	—	10,503	—
278B	Somerset	138	5,260	—	7,124	—
290	Stoughton	138	12,143	—	20,740	—
297	Swansea	103	2,648	3,212	5,218	3,551
297A	Swansea	6	—	—	—	—
297B	Swansea	6-136	11,474	12,039	15,898	17,116
298	Taunton	101	3,978	—	6,993	—
298A	Taunton	101	5,113	4,564	8,897	6,435
298B	Taunton	101-140	6,082	4,993	10,615	7,039
298C	Taunton	140	4,065	—	7,098	—
298D	Taunton	101-104	—	—	—	—
312	Walpole	1	11,887	—	17,248	—
312A	Walpole	11-27	12,798	7,389	23,020	10,344
312B	Walpole	1-27	—	—	—	—
336	Westport	6	10,704	—	16,308	—
336A	Westport	6	—	9,219	—	11,469
340	Westwood	11	17,255	19,078	25,037	27,482
340A	Westwood	137	—	—	—	—
341	Weymouth	3-18	13,926	12,270	19,281	14,736
341A	Weymouth	3A	23,361	23,098	32,346	36,741
341B	Weymouth	58-102	9,043	—	10,726	—

Sta. No.	Town	Routes	Number of Vehicles per average Day in August		Number of Vehicles per average Sunday in August	
			1930	1933	1930	1933
341C	Weymouth	18-128	8,932	10,008	10,596	10,588
341D	Weymouth	18-58	-	5,336	-	5,646
355	Wrentham	11-140	12,779	5,688	19,315	9,085
355A	Wrentham	11-150	9,495	3,950	13,753	4,776
355B	Wrentham	142	-	-	-	-

DISTRICT 7

1	Abington	102-123	7,404	8,083	8,781	10,979
1A	Abington	58-123	5,583	5,717	6,621	6,049
20	Barnstable	6-132	6,381	5,238	7,053	7,053
20A	Barnstable	6-49	7,369	6,355	12,092	11,215
20B	Barnstable	28-49	4,938	3,481	8,137	4,061
20C	Barnstable	28-130	3,194	2,856	5,262	3,197
20D	Barnstable	28	-	3,533	-	4,123
20E	Barnstable	28-132	-	4,667	-	5,596
20F	Barnstable	28	-	3,041	-	3,548
20G	Barnstable	28	-	3,875	-	4,521
36	Bourne	6-28	12,419	14,371	20,459	20,117
36A	Bourne	3-6	8,429	6,156	13,887	10,143
36B	Bourne	6	7,045	8,011	11,609	14,312
36C	Bourne	28	8,030	10,429	13,232	12,188
36D	Bourne	28	-	5,035	-	8,996
41	Brewster	6-24	4,022	3,204	4,529	3,768
42	Bridgewater	28	5,860	-	9,782	-
42A	Bridgewater	18-28	-	11,190	-	15,223
42B	Bridgewater	18-28	-	14,105	-	15,799
44	Brockton	123	-	-	-	-
44A	Brockton	28-37	10,306	12,476	17,599	15,619
44B	Brockton	28	8,973	9,951	13,981	17,609
44C	Brockton	28	-	5,365	-	9,494
44D	Brockton	27-28-123	-	23,418	-	41,440
44E	Brockton	27-28	-	18,981	-	33,590
52	Carver	101	-	1,702	-	2,979
52A	Carver	58-101	2,063	1,735	3,591	3,036
52B	Carver	58-101	2,113	2,106	3,633	3,929
55	Chatham	28	6,453	4,315	6,629	4,420
55A	Chatham	28	3,733	2,448	3,836	2,509
65	Cohasset	3A	-	12,782	-	20,457
76	Dennis	6-134	3,280	3,173	3,786	3,729
76A	Dennis	28-134	5,249	4,508	6,352	5,124
83	Duxbury	3A-14	4,189	3,419	6,289	4,781
85	E. Bridgewater	102-106	4,263	4,310	5,057	4,559
85A	E. Bridgewater	18-106	-	4,288	-	4,537
85B	E. Bridgewater	18	-	5,729	-	6,063
91	Edgartown	Edgartown Rd.	-	2,068	-	1,854
99	Falmouth	Vineyard Haven Rd.	7,041	5,684	11,602	6,632
99A	Falmouth	Locust and W. Main St.	-	6,315	-	7,368
122	Halifax	58-106	3,043	2,884	5,229	7,018
126	Hanover	3-123	6,565	8,031	10,069	10,502
126A	Hanover	3	8,509	7,546	13,049	9,868
126B	Hanover	3	-	8,911	-	11,651
127	Hanson	58	-	-	-	-
127A	Hanson	14-58	3,634	1,894	5,032	2,269
127B	Hanson	27-58	3,083	3,093	4,269	4,878
130	Harwich	24-28	6,341	3,855	5,489	3,950
130A	Harwich	29	-	4,829	-	4,950
135	Hingham	3A	17,061	18,882	24,168	30,147
135A	Hingham	3A	17,645	17,983	24,435	28,607
135B	Hingham	3-128	6,913	8,354	9,455	12,994
135C	Hingham	3A-128	-	7,004	-	11,212
135D	Hingham	Wash. Blvd. Rockland St.	-	14,503	-	23,366
135E	Hingham	128	*	8,183	-	13,183
135F	Hingham	3A-128	-	7,339	-	11,946
135G	Hingham	-	-	-	-	-
135H	Hingham	-	-	-	-	-
142	Hull	Nantasket Ave. Bay St.	-	16,153	-	24,024
149	Kingston	3-3A	6,109	5,921	10,475	10,059
149A	Kingston	3	-	-	-	-
149B	Kingston	27-106	3,153	3,209	5,484	5,429
149C	Kingston	3-106	-	7,810	-	13,205
150	Lakeville	18-105	1,525	1,649	2,652	2,901
150A	Lakeville	18-105	-	2,147	-	3,779
150B	Lakeville	18-101	-	3,786	-	6,663
173	Marion	6-105	7,534	5,762	12,588	8,258
175	Marshfield	3A	-	-	-	-
175A	Marshfield	3A	-	5,556	-	7,965
175B	Marshfield	3A	7,635	6,779	11,451	9,719
176	Mashpee	28	2,713	1,339	4,689	2,611

Sta. No.	Town	Routes	Number of Vehicles per average Day in August		Number of Vehicles per average Sunday in August	
			1930	1933	1930	1933
176A	Mashpee	130	—	865	—	1,009
177	Mattapoisett	6	—	6,440	—	9,378
186	Middleboro	28-101	9,182	—	15,807	—
186A	Middleboro	28	5,754	—	9,886	—
186B	Middleboro					
186C	Middleboro	28-105	—	10,410	—	16,555
186D	Middleboro	101-105	—	7,739	—	13,889
186E	Middleboro	28-101	—	9,436	—	17,122
223	Norwell	3-128	8,732	10,949	13,391	23,306
228	Orleans	6-28	4,221	3,697	4,586	4,148
228A	Orleans	6	—	5,002	—	5,881
228B	Orleans	28	—	2,622	—	2,686
236	Pembroke	3-14	4,748	4,985	8,768	9,069
235A	Pembroke	3-14	5,461	5,901	10,128	10,736
243	Plymouth	3				
243A	Plymouth	3	3,524	3,990	6,045	7,129
243B	Plymouth	3-101	—	12,707	—	15,986
244	Plympton	58-106	2,365	—	4,061	—
244A	Plympton	58	—	1,062	—	1,522
247	Provincetown	6	3,801	3,096	4,132	3,785
		Ran Point Rd.				
247A	Provincetown	Prov. Land Rd.	—	1,895	—	2,165
256	Rockland	123	5,483	6,271	7,591	7,512
256A	Rockland	123	4,698	4,680	6,506	5,605
266	Sandwich	130	6,789	1,981	11,186	3,535
266A	Sandwich	6-130	—	7,556	—	13,501
266B	Sandwich	6	—	7,604	—	13,587
269	Scituate	3A	7,154	5,739	10,736	9,702
269A	Scituate	3A-123	5,277	5,217	7,905	8,529
315	Wareham	6	7,663	6,609	13,166	9,875
315A	Wareham	6-28	11,334	11,585	19,474	20,793
315B	Wareham	28-58	6,813	8,521	11,704	12,819
315C	Wareham	6-28	10,723	11,999	18,102	16,202
315D	Wareham	6	—	5,451	—	8,148
315E	Wareham	28	—	7,373	—	14,417
322	Wellfleet	6	—	3,711	—	4,455
328	W. Bridgewater	28-106	8,123	10,296	13,558	10,703
		W. Tisbury Central				
339	W. Tisbury	W. Tisbury East	—	907	—	880
343	Whitman	18-27	7,363	7,794	8,722	8,247
343A	Whitman	27	—	4,003	—	4,237
356	Yarmouth	28	12,244	7,533	21,161	8,781
356A	Yarmouth	28	—	7,016	—	9,638

ROADSIDE MAINTENANCE AND DEVELOPMENT

Roadside maintenance as related to the care and planting of trees and other growth on the areas within the highway layouts and adjacent to the traveled surface of State highways has been one of the activities of this Department for over thirty-seven years. This work has been developed more rapidly during recent years because it has become recognized that systematic and intelligent control and development of all features of the roadside conditions are of value not only from the point of view of attractiveness in appearance but as a safety factor as well.

The Department has organized and trained a group of men under competent supervision to have charge of this work, not only for the removal and trimming of trees, brush and undesirable growth, but also for the selection and planting of new growth suitable for the locations. The removal of trees and brush that may obstruct vision at curves, intersections or other points on the highway is done to insure that operating conditions shall be as safe as possible and unnecessary growth is cleared out in order to afford attractive vistas at many scenic locations. For the protection of the roadside trees the Department has maintained a corps of inspectors to supervise the trimming that may be necessary for the construction of light and power transmission lines. In connection with this work a Nursery is maintained at Sudbury where most of the trees and shrubs for use on the highways of Massachusetts are grown and made available for use by the Department. Strict supervision of the tree trimming by the Public Service Corporations is maintained, thus preserving the natural beauty of our roadsides as much as possible and

still allowing the Public Service Corporations to extend their services.

During the year 1,224 trees were planted, making a total for the past twenty-nine years of 64,884 trees planted; also 402 vines, 120 evergreens and 376 pines were set out.

SIDEWALK CONSTRUCTION ON STATE HIGHWAYS

Under Chapter 439 of the Acts of 1931, the Department constructed one sidewalk during the year in the city of North Adams. It consisted of 1,933 lineal feet of granolithic construction and 265 lineal feet of gravel construction and the City has agreed to maintain the sidewalk.

FEDERAL AID IN CONSTRUCTING HIGHWAYS

Statements as to the acts of Congress and of the Massachusetts Legislature with respect to co-operation between the United States and the states in the construction and maintenance of highways, including the Federal Highway Act approved November 9, 1921, may be found in the annual reports of this Department for the years 1920-1927, inc.

The following Federal aid allotments have thus far been made to Massachusetts:—

For fiscal year ending June 30, 1917	\$73,850 94
For fiscal year ending June 30, 1918	147,701 90
For fiscal year ending June 30, 1919	958,145 15
For fiscal year ending June 30, 1920	1,400,078 27
For fiscal year ending June 30, 1921	1,472,788 83
For fiscal year ending June 30, 1922	1,096,176 04
For fiscal year ending June 30, 1923	730,784 03
For fiscal year ending June 30, 1924	950,448 62
For fiscal year ending June 30, 1925	1,089,806 22
For fiscal year ending June 30, 1926	1,099,891 00
For fiscal year ending June 30, 1927	1,089,055 00
For fiscal year ending June 30, 1928	1,089,100 00
For fiscal year ending June 30, 1929	1,088,808 00
For fiscal year ending June 30, 1930	1,090,077 00
For fiscal year ending June 30, 1931	1,821,569 00
For fiscal year ending June 30, 1932	1,813,916 00
For fiscal year ending June 30, 1933	1,511,244 00
Total	\$18,523,440 00

In addition to the above the following allotments were made. In 1931 an allotment was made from "Federal Emergency Advance Funds" amounting to \$1,141,460. In 1932 an allotment of \$1,716,612. was made from the Federal Emergency Relief and Construction Act. In 1933 an allotment of \$6,597,100. was made from "National Recovery Funds".

The total amount received by Massachusetts from 1916 to November 30, 1933 is \$20,481,723.23. This amount includes all types of Federal Aid.

Projects to the number of 32 have been prepared in addition to those shown in the report of the Department of Public Works for 1932. The total mileage included in the various Federal aid road projects in this state, from the commencement of work of this character to November 30, 1933, inclusive, is 1016.015. The mileage in various counties is:—

Barnstable, 97.989 miles
 Berkshire, 121.022 miles
 Bristol, 86.493 miles
 Dukes, 3.117 miles
 Essex, 77.705 miles
 Franklin, 48.691 miles

Hampden, 56.731 miles
 Hampshire, 54.300 miles
 Middlesex, 96.259 miles
 Norfolk, 86.845 miles
 Plymouth, 108.084 miles
 Suffolk, 2.590 miles
 Worcester, 176.189 miles

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1933

No.	Town or City	Miles	Amount of Federal Funds Involved	Amount Rec'd.
1	*Acushnet-Fairhaven	2.182	21,820 00	21,820 00
2	*Hanover	2.708	19,480 36	19,480 36
R-2	*Hanover	2.615	39,225 00	39,225 00
3	*Malden-Melrose Saugus	1.162	11,620 00	11,620 00
4	*Danvers	1.325	15,460 22	15,460 22
5	*Windsor-Dalton	3.240	64,800 00	64,800 00
6	*Sandwich	1.818	10,678 02	10,678 02
7	*Cummington	4.659	86,816 53	86,816 53
8	*Athol-Petersham	7.016	90,074 51	90,074 51
9	*Saugus	3.122	65,472 27	65,472 27
10	*Braintree	2.420	40,554 80	40,554 80
11	*Concord-Acton-Littleton	4.849	77,600 87	77,600 87
12	*Ipswich	2.173	21,851 50	21,851 50
E-12	*Ipswich	2.081	42,333 08	42,333 08
13	*Littleton-Groton	6.450	130,504 25	130,504 25
14	*Barnstable	3.331	22,687 65	22,687 65
15	*Norwell-Hingham	4.380	59,501 75	59,501 75
17	*Lynnfield-Peabody	1.794	35,880 00	35,880 00
18	*Lunenburg	2.797	55,940 00	55,940 00
19	*Taunton	2.116	42,320 00	42,320 00
20	*Tewksbury	2.909	35,211 82	35,211 82
21	*Pittsfield-Hancock	3.637	72,483 32	72,483 32
E-21A	*Hancock-Pittsfield	2.773	125,407 10	104,392 50
E-21B	*Hancock	1.098	72,901 15	43,898 00
22	*Greenfield-Bernardston	6.426	88,270 71	88,270 71
23	*Great Barrington	2.123	31,348 89	31,348 89
24	*Seekonk	2.756	19,527 75	19,527 75
R-24	*Seekonk	2.756	41,340 00	41,340 00
25	*BillERICA	0.578	38,389 77	38,389 77
26	*Greenfield-Shelburne:			
	Section 1	5.134	102,680 00	102,680 00
	Section 2	4.401	88,020 00	88,020 00
27	*Hamilton-Wenham	1.766	20,207 27	20,207 27
28	*Lanesborough:			
	Section A	0.990	19,780 00	19,780 00
	Section B	2.690	53,800 00	53,800 00
29	*Ware	2.626	46,557 55	46,557 55
30	*Brimfield	4.206	84,120 00	84,120 00
31	*Danvers-Peabody	1.107	22,140 00	22,140 00
32	*Huntington	3.078	97,163 48	97,163 48
33	*Acton-Littleton:			
	Section A	2.182	43,640 00	43,640 00
	Section B	1.624	25,847 25	25,847 25
34	*Dudley	1.359	27,180 00	27,180 00
35	*Haverhill-Methuen	4.544	90,880 00	90,880 00
36	*Eastham-Wellfleet-Provincetown:			
	Section A	10.690	91,347 85	91,347 85
	Section B	6.548	75,935 60	75,935 60
	Section C	8.043	86,130 51	86,130 51
37	*Egremont	1.164	20,579 07	20,579 07
38	*Peabody-Danvers	2.827	56,540 00	56,540 00
39	*Williamstown-New Ashford-Lanesborough:			
	Section A	0.020	9,123 64	9,123 64
	Section B	3.323	65,980 00	65,980 00
	Section C	4.590	68,850 00	68,850 00
40	*East Brookfield	1.011	20,220 00	20,220 00
41	*Ashby	1.250	22,141 03	22,141 03
42	*Washington	2.291	45,820 00	45,820 00
43	*Leicester	0.638	12,760 00	12,760 00
44	*Goshen-Cummington-Windsor:			
	Section A	1.494	29,880 00	29,880 00
	Section B	3.323	65,980 00	65,980 00
	Section C	3.780	82,915 42	82,915 42
	Section D	3.022	54,874 60	54,874 60
45	*Palmer:			
	Sections A and C	1.795	35,900 00	35,900 00
46	*Upton-Hopedale:			
	Section A	1.672	33,440 00	33,440 00
47	*Barre-Oakham	1.737	37,200 75	37,200 75
50	*Lunenburg	1.763	35,260 00	35,260 00
	*Mendon-Uxbridge:			
51	Section A	1.959	39,180 00	39,180 00
	Section B	2.504	50,080 00	50,080 00
52	*Oxford	3.208	64,160 00	64,160 00
53	*East Brookfield-Spencer-West Brookfield:			
	Section A	0.890	17,800 00	17,800 00
	Section B	1.682	33,640 00	33,640 00

*Work completed.

No.	Town or City	Miles	Amount of Federal Funds Involved	Amount Rec'd.
54	*Leicester:			
	Section A	0.829	16,580 00	16,580 00
	Section B	2.691	53,820 00	53,820 00
55	*Quincy	0.549	10,980 00	10,980 00
56	*Stoughton	2.141	42,820 00	42,820 00
NRH56	†Stoughton	2.188	117,194 77	
NRH57	†Winchester	1.031	25,346 42	
NRM57	†Woburn	1.995	28,240 19	
NRH57B	†Winchester	0.885	29,680 86	
57	*Winchester-Woburn	3.042	59,131 31	59,131 31
58	*Littleton	1.345	26,900 00	26,900 00
59	*Egremont	0.784	15,678 18	15,678 18
60	*Middletton-Danvers	1.907	38,224 70	38,224 70
61	*Winchendon-Templeton	5.393	106,117 44	106,117 44
62	*Danvers-Topsfield:			
	Section A	3.009	60,180 00	60,180 00
	Section B	3.513	76,959 91	76,959 91
63	*Essex-Ipswich	4.489	89,780 00	89,780 00
64	*Norwood	1.065	21,300 00	21,300 00
65	*North Adams	1.638	32,760 00	32,760 00
69	*Haverhill	2.657	53,049 24	53,049 24
70	*Palmer	2.550	51,000 00	51,000 00
71	*Wrentham	1.846	36,940 00	36,940 00
72	*Walpole	3.078	61,560 00	61,560 00
73	*Southwick	6.879	111,757 95	111,757 95
74	*Beckett	0.156	13,095 66	13,095 66
R74	*Becket	0.189	10,290 54	10,290 54
75	*Topsfield-Ipswich-Rowley-Newbury:			
	Section A	10.207	207,163 37	207,163 37
76	*Norfolk	1.447	28,940 00	28,940 00
77	*Merrimac	1.020	20,397 73	20,397 73
78	*Burlington	3.761	75,220 00	75,220 00
NRH78	†Burlington	3.760	45,171 06	
79	*Great Barrington	2.991	59,820 00	59,820 00
79B	*Great Barrington	0.028	8,522 99	8,522 99
80	*Lee:			
	Section A	0.909	18,180 00	18,180 00
	Section B	0.283	4,245 00	4,245 00
83	*Pembroke	2.121	31,815 00	31,815 00
84	*Sterling-West Boylston	3.491	51,974 04	51,974 04
85	*Dalton (Hinsdale Road):			
	Section A	1.033	20,660 00	20,660 00
	Section B	0.066	7,120 50	7,120 50
86	*Gay Head	3.117	40,783 51	40,783 51
87	*Dalton (Windsor Road):			
	Section A	1.056	21,120 00	21,120 00
	Section B	0.038	5,429 50	5,429 50
88	*Erving	4.537	67,485 00	67,485 00
89	*Easton:			
	Sections A and B	3.540	70,800 00	70,800 00
	Section C	3.840	62,400 00	62,400 00
NRH89A	†Easton	1.553	40,558 82	
NRH89C	†Easton	1.392	40,851 25	
90	*Brookfield-E. Brookfield	1.227	25,324 95	25,324 95
91	*Lowell	0.977	19,537 87	19,537 87
93	*Wilbraham	0.208	67,506 06	67,506 06
94	*Otis-Sandisfield	7.565	122,931 25	122,931 25
95	*Westfield	0.148	12,677 08	12,677 08
R95	*Westfield	0.148	36,944 88	36,944 88
96	*Rochester-Wareham	4.031	68,979 93	68,979 93
98	*Sheffield	3.052	61,133 85	61,133 85
99	*Gloucester	1.191	19,353 75	19,353 75
100	*Rutland	3.640	59,150 00	59,150 00
101A	*Hinsdale	0.297	4,455 00	4,455 00
101B	*Hinsdale	0.858	24,116 51	24,116 51
102A	*Plainville-Wrentham	3.254	48,810 00	48,810 00
103	*Adams	0.568	9,230 00	9,230 00
104	*Milton	3.534	70,680 00	70,680 00
105	*Rehoboth	1.438	28,760 00	28,760 00
106	*Bourne	0.522	35,002 00	35,002 00
R106	*Bourne-Falmouth	6.458	66,412 31	35,523 07
107	*Southampton	2.203	44,060 00	44,060 00
108	*Lakeville-Freetown	4.583	71,706 11	71,706 11
109	*West Brookfield	0.066	10,283 73	10,283 73
110	*Middleborough-Bridgewater	0.109	24,580 87	24,580 87
111	*Braintree	0.371	7,200 00	7,200 00
112	*No. Attleborough-Attleboro	3.278	65,560 00	65,560 00
113	*Swansea	0.692	11,245 00	11,245 00
113B	*Swansea-Somerset	3.503	64,439 74	64,439 74
114	*Lenox	2.408	39,130 00	39,130 00

*Work completed.

†Work underway.

No.	Town or City	Miles	Amount of	
			Federal Funds	Amount Rec'd.
			Involved	
115	*Plymouth	1.680	25,522 53	25,522 53
116	*Norwood-Walpole	2.453	40,878 91	40,878 91
117A	*Chelmsford	1.377	27,540 00	27,540 00
117B	*Chelmsford-Tyngsboro	4.625	89,713 81	89,713 81
118A	*Brookfield	0.620	12,400 00	12,400 00
118B	*Brookfield	0.251	3,765 00	3,765 00
119A	*Essex	0.406	8,120 00	8,120 00
120A	*Lakeville	4.789	71,835 00	71,835 00
120B	*Berkeley	0.864	12,960 00	12,960 00
120C	*Taunton-Berkeley	2.758	41,370 00	41,370 00
120D	*Taunton	0.862	12,930 00	12,930 00
121A	*Abington	0.947	17,887 34	17,887 34
121B	*Bridgewater	0.113	16,568 31	16,568 31
121C	*Weymouth	2.720	40,800 00	40,800 00
121D	*E. Bridgewater-Whitman	2.000	30,000 00	30,000 00
121E	*Abington	1.088	14,770 42	14,770 42
122A	*Barnstable	0.066	18,711 51	18,711 51
122B	*Barnstable-Mashpee	2.482	36,349 09	36,349 09
122C	*Falmouth-Mashpee	8.137	114,307 02	114,307 02
122D	*Barnstable	5.643	161,431 21	161,431 21
122E	*Barnstable	1.621	20,394 77	20,394 77
E122F	*Barnstable-Yarmouth	2.395	79,820 96	56,106 31
123A	*Southampton	2.461	47,155 67	47,155 67
124A	*Wayland	0.189	30,296 68	30,296 68
124B	*Marlborough	1.626	24,390 00	24,390 00
124C	*Weston	1.004	147,745 22	147,745 22
125A	*Wareham	3.086	68,316 11	68,316 11
125B	*Wareham	2.761	41,415 00	41,415 00
127A	*Holyoke	4.136	62,040 00	62,040 00
127B	*Easthampton-Northampton	1.762	74,258 69	74,258 69
128A	*Hinsdale	0.066	8,598 63	8,598 63
128B	*Hinsdale	0.952	14,280 00	14,280 00
129A	*Dighton-Somerset	3.465	51,975 00	51,975 00
129B	*Somerset	4.340	65,511 29	65,511 29
130A	*Auburn-Oxford	4.208	63,120 00	63,120 00
131A	*Wilbraham	0.530	7,950 00	7,950 00
131B	*Wilbraham	1.012	15,180 00	15,180 00
NRM131C	†Springfield (Force Acct.)	3.426	190,947 61	
132A	Duxbury-Kingston	2.123	31,845 00	31,845 00
133A	*North Andover	0.615	9,225 00	9,225 00
133B	*North Andover	0.771	11,565 00	11,565 00
133C	*North Andover	2.670	35,085 00	35,085 00
134A	*Barre	1.217	18,255 00	18,255 00
134B	*Barre	1.261	18,915 00	18,915 00
134C	*Barre	1.617	24,255 00	24,255 00
E134D	†Oakham-Rutland	3.493	60,604 79	49,320 52
135A	*Russell	0.557	13,919 60	13,919 60
135B	*Westfield-Russell	3.607	54,075 00	54,075 00
135C	*Russell	3.291	53,059 55	53,059 55
135D	*Russell-Huntington	3.670	55,050 00	55,050 00
136A	*Agawam	1.331	19,965 00	19,965 00
136B	*Agawam	1.515	22,725 00	22,725 00
136C	*Agawam	1.000	15,000 00	15,000 00
137A	*Sheffield	0.170	22,710 05	22,710 05
137C	*Sheffield	1.532	22,980 00	22,980 00
138A	*Chester	0.097	10,818 36	10,818 36
138B	*Chester	4.250	92,391 53	92,391 53
NRH138B	†Chester	0.307	52,686 97	
138C	*Becket	2.742	64,963 68	64,963 68
139A	*Brimfield	0.103	6,075 05	6,075 05
139B	*Brimfield	4.778	68,916 18	68,916 18
140A	*Lenox-Lee	3.519	52,785 00	52,785 00
140B	*Lee	0.057	22,620 13	26,620 13
141A	*Williamsburg	0.211	8,880 65	8,880 65
141B	*Goshen-Williamsburg	5.042	93,547 40	93,547 40
141C	*Northampton-Williamsburg	4.146	62,190 00	62,190 00
142A	*Fitchburg-Westminster	3.960	69,171 34	69,171 34
142B	*Gardner-Westminster	3.699	52,316 73	52,316 73
142C	*Gardner-Templeton	4.174	62,610 00	62,610 00
143	*Fairhaven-Mattapoisett	3.245	52,079 86	52,079 86
144A	*Canton-Stoughton	4.306	64,436 20	64,436 20
145A	*Ashland-Holliston	3.330	34,645 01	34,645 01
146A	*Paxton	1.783	26,745 00	26,745 00
146B	*Paxton-Worcester	4.930	73,950 00	73,950 00
147A	*Lenox-Pittsfield	2.349	35,235 00	35,235 00
148A	*Raynham	1.657	24,855 00	24,855 00
148B	*Raynham-Taunton	2.861	42,915 00	42,915 00
149A	*Middleborough	5.586	83,790 00	83,790 00
149B	*Middleborough	0.831	12,465 00	12,465 00

*Work completed.

†Work underway.

No.	Town or City	Miles	Amount of Federal Funds Involved	Amount Rec'd.
150A	*Littleton-Westford	1.985	29,775 00	29,775 00
150B	*Westford	2.660	39,900 00	39,900 00
151A and B	*Swansea-Somerset	0.464	89,138 06	89,138 06
152A	*Dartmouth	1.401	21,015 00	21,015 00
152B	*Dartmouth	2.858	42,870 00	42,870 00
152C	*Westport	4.634	69,510 00	69,510 00
153A	*Southampton-Easthampton	1.410	21,150 00	21,150 00
154A	*Sturbridge	2.503	37,545 00	37,545 00
155A	*West Springfield	0.549	8,235 00	8,235 00
155B	*Westfield-W. Springfield	2.348	103,968 51	103,968 51
156A	*Orange	1.058	15,870 00	15,870 00
156B	*Orange	2.607	39,105 00	39,105 00
156C	*Athol-Orange	1.544	24,606 61	24,606 61
157A	*Sandisfield-Tolland	0.644	34,803 50	34,803 50
R157A	*Sandisfield-Tolland	0.644	5,107 62	5,107 62
157B	*Sandisfield	0.473	32,037 28	32,037 28
157C	*Sandisfield-Tolland	3.033	45,570 00	45,570 00
157D	*Sandisfield	0.219	13,641 74	13,641 74
158A	*Dalton	0.430	22,087 67	22,087 67
159A	*Seekonk-Rehoboth-Swansea	1.899	49,876 52	49,876 52
159B	*Seekonk	2.251	33,765 00	33,765 00
159C	*Swansea	2.767	41,505 00	41,505 00
160A	*Lenox-Lee-Stockbridge	5.453	81,795 00	81,795 00
161A	*Brockton-W. Bridgewater	3.823	57,345 00	57,345 00
161B	*Avon-Brockton	2.201	33,015 00	33,015 00
162A	*Holliston	3.315	49,725 00	49,725 00
162B	*Milford	1.790	26,850 00	26,850 00
163A	*Amherst	0.052	3,787 09	3,787 09
163B	*Amherst	2.100	31,500 00	31,500 00
164A	*Westminster-Winchendon	0.750	42,931 27	42,931 27
164B	*Westminster-Ashburnham	3.607	54,105 00	54,105 00
164C	*Ashburnham	3.776	56,640 00	56,640 00
164D	*Winchendon	2.826	42,390 00	42,390 00
165A	*Winchendon	2.460	36,900 00	36,900 00
166	*Becket-Otis	6.043	99,077 00	99,077 00
168A	*Deerfield	3.043	45,645 00	45,645 00
169A	*Merrimac-Amesbury	3.397	50,955 00	50,955 00
E170A	*Cohasset-Hingham	3.151	255,725 40	244,035 70
E170B	*Cohasset-Seituate	5.808	193,455 25	168,327 49
NRM170C	†Quincy-Weymouth (Temp. Bridge Only)	0.521	90,463 01	
171A	*Chelmsford	1.536	23,040 00	23,040 00
172A	*Leominster-Sterling	2.713	40,770 00	40,770 00
NRH172B	†Sterling-W. Boylston	4.337	192,781 43	
173A	*Cheshire	4.377	74,965 81	74,965 81
173B	*Lanesboro	1.742	26,130 00	26,130 00
NRH173C	†Lanesboro	0.347	17,983 98	
NRM173D	†Pittsfield	1.462	53,896 49	
174A	*Marshfield	4.533	67,995 00	67,995 00
NRH174B	†Seituate-Marshfield	1.168	150,757 25	
175A	*Sandwich	0.217	22,181 26	22,181 26
175B	*Orleans	1.904	23,601 55	23,601 55
175C	*Barnstable	0.927	13,905 00	13,905 00
175D	*Sandwich	2.364	35,460 00	35,460 00
175E	*Brewster-Orleans	7.858	106,314 45	106,314 45
176A	*Plymouth	5.032	70,543 35	70,543 35
176B	*Plymouth-Bourne	2.948	44,220 00	44,220 00
177A	*Chatham	3.964	48,588 18	48,588 18
177B	*Orleans	1.802	25,838 02	25,838 02
177C	*Dennis	3.219	38,734 30	38,734 30
E177D	*Yarmouth	4.818	110,106 38	95,801 01
178A	*Chelmsford	1.262	18,930 00	18,930 00
179A	*Falmouth	3.394	50,910 00	50,910 00
180A	*Franklin-Wrentham	3.125	46,875 00	46,875 00
180B	*Bellingham-Franklin	3.889	58,335 00	58,335 00
181A	*Florida-North Adams	2.818	42,270 00	42,270 00
181B	*Florida	2.736	41,040 00	41,040 00
181C	*No. Adams-Clarksburg	3.362	50,430 00	50,430 00
181D	*Florida-Savoy	3.702	55,530 00	55,530 00
182A	*Lunenburg	1.312	19,680 00	19,680 00
183A	*Amesbury-Salisbury	1.922	28,830 00	28,830 00
183B	*Amesbury	1.329	45,345 32	45,345 32
184A	*Charlton	2.843	42,720 00	42,720 00
NRH184A	†Charlton	2.848	67,893 41	
184B	*Charlton-Sturbridge	5.623	84,345 00	84,345 00
NRH184C	†Charlton-Oxford	2.609	48,936 52	
184D	*Oxford	0.906	21,111 59	21,111 59
185A	*Buckland	1.245	18,675 00	18,675 00
185B	*Charlemont	2.433	35,640 00	35,640 00
185C	*Charlemont	0.421	34,244 36	34,244 36

*Work completed.

†Work underway.

No.	Town or City	Miles	Amount of Federal Funds Involved	Amount Rec'd.
186	*Salisbury	2.405	36,075 00	36,075 00
187A	*Bellingham	1.225	18,375 00	18,375 00
187B	*Hopedale-Mendon-Bellingham	2.502	34,650 00	34,650 00
188A	*Townsend	3.813	57,195 00	57,195 00
188B	*Pepperell-Groton	3.368	50,520 00	50,520 00
188C	*Groton-Pepperell	1.627	52,993 57	52,993 57
188D	*Townsend	0.061	17,849 72	17,849 72
188E	*Townsend	0.009	2,108 03	2,108 03
NRH188F	†Ashby-Townsend	4.023	133,967 50	
189A	*Marion-Wareham	0.582	78,792 57	78,792 57
189B	*Mattapoisett	1.804	27,060 00	27,060 00
189C	*Marion	4.554	68,310 00	68,310 00
189D	*Wareham	1.344	20,160 00	20,160 00
NRH189E	†Mattapoisett	1.583	69,419 79	
NRH189F	†Wareham	1.556	57,224 03	
190A	*Becket	2.254	33,810 00	33,810 00
190B	*Hinsdale	0.307	29,570 45	29,570.45
191A	*Falmouth	5.896	81,094 43	81,094 43
191B	*Falmouth	1.752	21,280 00	26,280 00
192A	*Groveland	1.643	24,645 00	24,645 00
192B	*Newburyport	1.745	26,175 00	26,175 00
193A	*Hadley	1.985	25,821 78	25,821 78
193B	*Hadley	2.662	26,852 35	26,852 35
194A	*Athol-Phillipston-Templeton	4.738	71,070 00	71,070 00
NRH194B	†Templeton	3.002	72,439 89	
195A	*Mansfield-Norton	0.960	17,862 40	17,862 40
195B	*Mansfield-Norton	2.617	39,255 00	39,255 00
195C	*Foxborough-Wrentham	0.927	23,175 00	23,175 00
196A	*Millbury-Grafton	4.440	66,600 00	66,600 00
197	*Plymouth	6.543	96,288 19	96,288 19
198A	*Milford-Hopedale-Upton	4.418	66,270 00	66,270 00
199A	*Newbury	0.303	127,124 34	127,124 34
199B	*Newbury-Rowley	4.437	173,737 72	173,737 72
NRH199C	†Newbury	3.047	90,975 44	
200A	*Rehoboth	1.875	28,125 00	28,125 00
200B	*Taunton-Dighton-Rehoboth	5.690	86,868 07	86,868 07
201	*Wilbraham	1.530	22,950 00	22,950 00
202A	*Hanover-Pembroke	2.061	44,462 11	44,462 11
202B	*Duxbury-Kingston-Pembroke	6.164	92,460 00	92,460 00
203	*Natick-Wellesley	2.066	30,990 00	30,990 00
204	*Erving	3.214	48,210 00	48,210 00
205	*Dalton	0.913	22,152 43	22,152 43
206A	*Billerica	1.898	35,399 86	35,399 86
206B	*Billerica	0.978	14,670 00	14,670 00
206C	*Billerica-Chelmsford	2.874	40,148 95	40,148 95
207A	*Bridgewater-Middleboro	10.474	173,628 65	173,628 65
208A	*Weston	0.186	39,270 35	39,270 35
208B	*Weston	1.224	96,576 94	96,576 94
209A	*Milton-Quincy-Randolph	3.315	39,725 00	49,725 00
210A	*Becket-Lee	7.192	107,880 00	107,880 00
210B	*Becket	2.886	43,290 00	43,290 00
211A	*Northborough-Shrewsbury-Southborough	11.272	391,333 56	391,333 56
211B	*Framingham-Southboro	4.398	82,947 44	82,947 44
211C	*Framingham-Natick	4.061	100,200 00	94,244 62
E211D	*Wellesley	2.272	240,636 35	235,595 86
E211E	*Wellesley	1.108	376,899 31	370,192 46
212	*North Attleborough	2.123	45,332 76	45,332 76
213	*Attleborough	1.455	58,131 53	58,131 53
214A	*Tyngsborough	0.540	209,285 64	209,285 64
215A	*Palmer-Monson	0.606	79,452 36	79,452 36
216A	*Dedham	0.738	10,935 00	10,935 00
217	*Chester-Huntington	3.781	61,090 38	61,090 38
218	*Canton-Dedham-Westwood	3.947	202,012 06	129,297 55
219A	*Marlborough-Northboro	5.109	416,409 15	416,409 15
219B	*Northboro-Shrewsbury	2.578	56,157 49	56,157 49
220A	*Foxborough-Plainville-Wrentham	5.722	372,032 25	372,032 25
221	*Egremont	2.135	53,375 00	53,375 00
222	*Deerfield-Greenfield	0.337	127,099 76	127,099 76
223A	*Williamstown	1.789	38,956 97	38,956 97
224A	*Andover- No. Reading-Reading	4.431	214,676 48	214,676 48
225A	*Erving	1.425	113,775 43	113,775 43
225B	*Gill-Greenfield	5.147	160,827 89	160,827 89
225C	*Erving-Gill	0.017	194,050 94	194,050 94
226A	*Auburn-Worcester	4.809	143,134 13	143,134 13
226B	*Millbury-Worcester	2.125	182,684 81	182,684 81
226C	*Shrewsbury-Worcester	3.015	89,151 11	69,123 91
227	*Foxborough-Sharon-Wrentham	4.314	161,995 10	161,995 10
228A	*Uxbridge	4.171	126,823 58	126,823 58
229A	*Dedham-Westwood-Needham	3.448	100,412 55	79,752 13
229B	*Needham-Wellesley	3.653	103,047 67	86,043 72
230A	*Salisbury	2.184	38,084 39	38,084 39

*Work completed.

†Work underway.

No.	Town or City	Miles	Amount of Federal Funds Involved	Amount Rec'd.
231A	*Sharon-Walpole-Norwood	5.458	142,791 40	142,791 40
231B	*Dedham-Westwood-Norwood	3.566	168,318 57	130,156 22
232A	*Littleton	0.420	32,130 37	32,130 37
233A	*Lakeville-Middleboro	4.112	124,205 92	124,205 92
E235A	*Wellesley	1.360	125,962 33	125,962 33
NRM235B	†Brookline-Newton	1.089	210,478 94	
E236	*Lakeville-Middleborough-Taunton-Rayn- ham	6.344	219,779 15	123,134 70
E237A	*Oxford-Webster	3.375	127,719 68	85,089 53
238A	*Granby	3.154	37,134 33	37,134 33
E238B	*Belchertown	2.812	49,582 76	49,582 76
240A	*Worcester-W. Boylston	2.229	32,937 27	32,937 27
NRH240B	†West Boylston	0.594	15,630 28	
NRM241A	†E. Boston-Revere	2.294	713,586 36	
NRM242A	†Arlington-Belmont-Cambridge	1.557	597,218 35	
NRH243A	†Amesbury	0.795	44,977 46	
NRM244A	†Boston (Hyde Park)	0.296	39,246 79	
NRS245A	†Huntington	5.313	141,724 44	
NRS246	†Conway-Deerfield	6.193	225,494 28	32,408 40
Grand Totals		1016.015	\$24,547,747 91	\$20,481,723.23

STATEMENT OF FEDERAL EMERGENCY ADVANCE FUNDS

No.	Town or City	Amount of Federal Aid Involved	Amount Rec'd
122D	*Barnstable	\$116,571 15	\$116,571 15
124C	*Weston	132,685 22	132,685 22
158C	*Groton-Pepperell	9,516 49	9,516 49
199B	*Newbury-Rowley	62,185 37	62,185 37
208B	*Weston	78,216 94	78,216 94
219A	*Marlborough-Northborough	329,743 37	399,743 37
220A	*Foxborough-Plainville-Wrentham	286,202 25	286,202 25
224A	*Andover-No. Reading-Reading	90,544 85	90,544 85
225A	*Erving	35,794 36	35,794 36
*Total		\$1,141,460 00	\$1,141,460 00

STATEMENT OF FEDERAL EMERGENCY RELIEF AND CONSTRUCTION ACT

		Reg. Fed. Aid	Emerg. Const. Funds
E-12	*Ipswich	\$14,393 25	\$27,939 83
E-21A	*Hancock-Pittsfield	12,540 71	112,866 39
E-21B	*Hancock	10,935 17	61,965 98
E-122F	*Barnstable-Yarmouth	18,358 82	61,462 14
E-134D	†Oakham-Rutland	16,076 20	44,528 59
E-170A	*Cohasset-Hingham	30,687 05	225,038 35
E-170B	*Cohasset-Scituate	44,260 96	149,194 29
E-177D	*Yarmouth	28,968 14	81,138 24
E-211D	*Wellesley	37,516 72	203,119 63
E-211E	*Wellesley	64,803 13	312,096 18
E-235A	*Wellesley	34,009 83	91,952 50
E-236	*Lakeville-Middleborough-Taunton-Raynham	7,981 34	211,797 81
E-237A	*Oxford-Webster	28,419 71	99,299 97
E-238B	*Belchertown	15,370 66	34,212 10
Totals		\$364,321 69	\$1,716,612 00
Total apportionment of Emerg. Const. Funds			1,716,612 00
Total obligated			1,716,612 00
Balance			\$ 0 00

STATEMENT OF NATIONAL RECOVERY FUNDS

No.	Town or City	Regular Fed. Aid Involved	National Re- covery Funds Involved
The Projects listed below are all "Underway".			
NRH56	Stoughton		\$117,194 77
NRH57	Winchester	\$12,600 00	12,746 42
NRM57	Woburn	14,100 00	14,140 19
NRH57B	Winchester	14,800 00	14,880 86
NRH78	Burlington	22,500 00	22,671 06
NRH89A	Easton		40,558 82
NRH89C	Easton		40,851 25
NRM131C	Springfield		190,947 61
NRH138B	Chester		52,686 97

*Work completed.

†Work underway.

No.	Town or City	Regular Fed. Aid Involved	National Re- covery Funds Involved
NRM170C	Quincy-Weymouth (Temp. Bridge)		90,463 01
NRH172B	Sterling-W. Boylston	96,200 00	96,581 43
NRH173C	Lanesboro	8,000 00	9,983 98
NRM173D	Pittsfield	23,000 00	30,896 49
NRH174B	Scituate-Marshfield		150,757 25
NRH184A	Charlton	33,900 00	34,083 41
NRH184C	Charlton-Oxford	20,523 83	28,412 69
NRH188F	Ashby-Townsend	16,435 81	117,581 69
NRH189E	Mattapoisett	30,000 00	39,419 79
NRH189F	Wareham	25,000 00	82,224 03
NRH194B	Templeton	36,200 00	36,239 89
NRH199C	Newbury	44,000 00	46,975 44
NRM235B	Brookline-Newton		210,478 94
NRH240B	West Boylston	7,500 00	8,130 28
NRM241A	East Boston-Revere		713,586 36
NRM242A	Arlington-Belmont-Cambridge		597,218 35
NRH243A	Amesbury	17,984 24	26,993 22
NRM244A	Boston (Hyde Park)		39,246 79
NRS245A	Huntington		141,724 44
NRS246	Conway-Deerfield		225,494 28
Totals		\$422,743 88	\$3,183,119 71

Note:—Amount of National Recovery Funds received prior to Dec. 1, 1933=\$32,408.40 on project NRS 246, Conway-Deerfield.

	N R H.	N R M.	N R S.
Apportionment	\$1,932,950 00	\$4,136,382 00	\$527,768 00
Obligated	928,923.28	1,886,977 71	367,218 72
(As of Nov. 30, 1933) Balance	\$1,004,026.72	\$2,249,404 29	\$160,549 28

BRIDGES

During the year the Department has prepared designs and plans for, and done other work relating to, bridges throughout the Commonwealth. The various cities and towns, the localities therein, the character of the structure and other details are as follows:

BRIDGES AND STRUCTURES BUILT OR CONTRACTED FOR

Cities and Towns, Locality and Character of Structure.

- Alford — Green River Road over Green River; two 33-foot spans, reinforced concrete beam and slab.
- Ashland — Homer Avenue over Cold Spring Brook; one 17-foot span, reinforced concrete slab.
- Belchertown — Enfield Road over Jabish Brook; one 20-foot span, reinforced concrete slab.
- Belchertown — Parker Road over Jabish Brook; one 18-foot span, reinforced concrete slab.
- Charleton — Sturbridge Road over Cary Brook; one 15-foot span, reinforced concrete slab.
- Dartmouth — Potomska Road over Little River; two 18-foot spans, reinforced concrete beam and slab; one 63-foot span, steel girder.
- Dedham — Providence Turnpike over Circumferential Highway; one 83-foot span, steel deck girder with reinforced concrete floor.
- Dedham — Providence Turnpike over High Street; one 73-foot span, steel deck girder with reinforced concrete floor.
- Dedham — Providence Turnpike over Williams Street; one 64-foot span, steel deck girder with reinforced concrete floor.
- Dedham — Reinforced concrete mat and culvert at sites of High Street and Williams Street bridges.
- Dedham — Retaining walls at High Street and Williams Street bridges.
- Dighton — Taunton Road at Taunton line over Three Mile River; one 42-foot span, reinforced concrete beam and slab.
- Edgartown — At Oak Bluffs line over Sengekontacket Pond; sixteen 15-foot spans, timber trestle.
- Framingham — Concord Street over Sudbury River; two 28-foot spans, reinforced concrete beam and slab.
- Granby — Belchertown Road over Forge Pond Brook; one 15-foot span, reinforced concrete slab.

- Granville — Main Road at Tolland line over Hubbard River; one 26-foot span, reinforced concrete beam and slab.
- Hingham — Cohasset Road over tracks of New York, New Haven and Hartford Railroad, one 57-foot span, steel stringers with reinforced concrete floor.
- Hingham — Cohasset Road over Weir River; one 17-foot span, reinforced concrete slab.
- Hinsdale — Fassell Road over Branch of Housatonic River; one 20-foot span, reinforced concrete slab.
- Lee — West Park Street over Canal; one 23-foot span, reinforced concrete beam and slab.
- Lee — West Park Street over Housatonic River; two 60-foot spans, steel stringers with reinforced concrete floor.
- Middleborough — Cattle pass over Thompson Street; two 24-foot spans and one 40-foot span, reinforced concrete girder.
- Needham — Circumferential Highway under tracks of New York, New Haven and Hartford Railroad; one 75-foot span, steel girder.
- Needham — Highland Avenue over Circumferential Highway; one 63-foot span, concrete rigid frame.
- Newbury — Middle Street over Parker River; one 42-foot span, steel stringer.
- Newton — Retaining walls at Centre Street on Worcester Turnpike.
- Newton — Retaining walls at Quinobequin Road and Chestnut Street, on Worcester Turnpike.
- Newton — Retaining walls at Parker Street on Worcester Turnpike.
- Newton — Worcester Turnpike over Centre Street; one 93-foot span, three-hinged steel arch.
- Newton — Worcester Turnpike over Chestnut Street; one 50-foot span, reinforced concrete rigid frame.
- Newton — Worcester Turnpike over Quinobequin Road; one 51-foot span, reinforced concrete rigid frame.
- Newton — Worcester Turnpike over Sudbury Aqueduct; one 9-foot span, reinforced concrete saddle.
- Newton — Worcester Turnpike under Parker Street; two 30-foot spans, steel stringers with reinforced concrete floor.
- Pittsfield — State Highway over Phelps Brook; one 31-foot span, reinforced concrete beam and slab.
- Revere — Beach Street over tracks of Boston and Maine Railroad; two 35-foot spans, reinforced concrete beam and slab, one 62-foot span, steel girders.
- Savoy — Adams Road over Westfield River; one 24-foot span, reinforced concrete beam and slab.
- Savoy — Adams Road over Sturtevant Brook; one 24-foot span, reinforced concrete beam and slab.
- Wellesley — Worcester Turnpike over tracks of Boston and Albany Railroad, one 83-foot span, steel plate girder.
- Wellesley — Worcester Turnpike over Aqueduct at Station 11+91; one 6-foot span, reinforced concrete saddle.
- Wellesley — Worcester Turnpike over Weston Road; one 58-foot span, reinforced concrete rigid frame.
- Wellesley — Worcester Turnpike under Washington Street; two 75-foot spans, steel deck plate girders with reinforced concrete floor.
- Wellesley — Worcester Turnpike under Cedar Street; two 40-foot spans, steel stringers with reinforced concrete floor.
- Wellesley — Worcester Turnpike over Cliff Road; one 50-foot span, reinforced concrete rigid frame.
- Wellesley — Cliff Road over tracks of Boston & Albany Railroad; one 64-foot span, steel plate girder.

- Wellesley — Worcester Turnpike over Adequct at Station 11+91; one 6-foot span, reinforced concrete saddle.
- Wellesley — Worcester Turnpike over Rosemary Brook; one 12-foot span, reinforced concrete slab.
- Wellesley — Retaining walls at Washington Street bridge on Worcester Turnpike.
- Westfield — Main Street over Powder Mill Brook; twenty-two 18-foot spans and one 32-foot span, reinforced concrete pile trestle.
- Westfield — Main Street over Westfield River; two 50-foot spans, steel stringer and one 273-foot span through steel truss.
- Westwood — Providence Turnpike under tracks of New York, New Haven and Hartford Railroad; one 99-foot span, steel plate girder.
- Worthington — Huntington Road over Ward's Stream; one 8-foot span, reinforced concrete box culvert.

ALTERATIONS, REPAIRS AND EXTENSIONS TO BRIDGES AND STRUCTURES
MADE OR CONTRACTED FOR

- Billerica — At Wilmington line, Aqueduct bridge over Shawsheen River; extension to existing reinforced concrete arch, 21-foot span.
- Charlton — Southbridge Road over Cady Brook, Sta. 94; extension to reinforced concrete beam and slab, 17-foot span.
- Charlton — Southbridge Road over Cady Brook, Sta. 129; extension to reinforced concrete beam and slab, 20-foot span.
- Charlton — Southbridge Road over Cady Brook, Sta. 17; alteration of bridge fence.
- Dalton — Main Street over Housatonic River; steel bridge repainted.
- Egremont — Under Mountain Road over Guilder Brook; extension to reinforced concrete beam and slab, 24-foot span.
- Greenfield — At Montague line, Montague City Bridge over Connecticut River; repairs to trusses and roof.
- Hingham — Bridge at Otis and Summer Streets; repairs to existing concrete beams.
- Lee — Center Street bridge over Housatonic River; repainting steel.
- Needham — Greendale Avenue over tracks of New York, New Haven and Hartford Railroad; one 32-foot span, reinforced concrete arch extension.
- Newton — Worcester Turnpike over Charles River; extensions to two existing stone faced concrete arches; one 14-foot span and one 50-foot span.
- Newton — Worcester Turnpike over East Branch of Charles River; extension to stone faced concrete arch, 20-foot span.
- North Adams — Greylock Bridge over Hoosic River; repainting steel.
- Oakham — Athol Road over Brook; extension to reinforced concrete arch, 10-foot span.
- Oakham — Athol Road over Mill Pond; extension to reinforced concrete beam and slab, 24-foot span.
- Oxford — Charleston Road over French River; extension to reinforced concrete arch, 16-foot span.
- Pittsfield — Lebanon Avenue over West Branch Housatonic River; extension to reinforced concrete beam and slab, 30-foot span.
- Pittsfield — Hancock Road over Shaker Brook; extension to reinforced concrete beam and slab, 18-foot span.
- Pittsfield — Woodleigh Avenue over Brook; extension to reinforced concrete culvert, 8-foot span.
- Sandisfield — At Tolland line, State Line bridge over Farmington River; repainting steel.
- Sandisfield — Hanging Mountain bridge over Farmington River; repainting steel.
- Sheffield — Blodgett's bridge over Housatonic River; repainting steel.

- Shrewsbury — Boston Post Road over Brook; extension to reinforced concrete slab, 13-foot span.
- Southwick — South Longyard Road over Great Brook; extension to reinforced concrete slab, 11-foot span.
- Southwick — South Longyard Road over canal; extension to reinforced concrete slab, 8-foot span.
- Tewksbury — Main Street over Shawsheen River; extension to 2-span reinforced concrete beam and slab, 20-foot spans.
- Tyngsborough Bridge over Merrimack River and tracks of Boston & Maine Railroad; reinforced concrete hood over railroad tracks.
- Wareham — State highway over Weweantic River; extension to reinforced concrete beam and slab, 25-foot span.
- Wareham — State highway over Parker Mills Pond; extension to reinforced concrete beam and slab, 30-foot span.
- Worthington — Huntington Road over Little River; extension to reinforced concrete beam and slab, 28-foot span.
- Worthington — Huntington Road over Ward's Stream; extension to reinforced concrete beam and slab, 20-foot span.

CONTEMPLATED BRIDGES AND STRUCTURES

Plans, Studies or Estimates Made

Cities and Towns, Locality and Character of Structure.

- Arlington — Grade separation on Cambridge-Concord Highway at Pleasant Street.
- Attleboro — Washington Street over tracks of New York, New Haven and Hartford Railroad.
- Ayer — West Main Street over tracks of Boston and Maine Railroad.
- Belchertown — Cranby Road over tracks of Boston and Maine Railroad and tracks of Central Vermont Railroad. Bondsville Road over Reservoir Outlet, over canal, and over tracks of Boston and Maine Railroad.
- Boston — Viaduct over tracks of Midland Division of New York, New Haven and Hartford Railroad, Neponset River, and River Street connecting Neponset River Parkway with the proposed extension of Canterbury Street; grade separations on proposed Clarendon Hills Parkway at Hyde Park Avenue, over tracks of the New York, New Haven and Hartford Railroad, and Poplar Street. East Boston Tunnel Road over road and proposed tracks of Boston and Maine Railroad near Orient Heights. Grade separation at Huntington Avenue and the Riverway.
- Relocation of highway at Pauls Bridge over Neponset River.
- Brookline — Grade separation on Worcester Turnpike at Brookline Village and at Cypress Street.
- Cambridge — Traffic Circle at junction of Alewife Brook Parkway and Cambridge-Concord highway.
- Clarksburg — Extension to arch over Hoosic River.
- Cohasset — Proposed bridge over tracks of New York, New Haven and Hartford Railroad, near Black Rock Station.
- Colrain — Center bridge over East Branch of North River.
- Concord — Bridges on Cambridge-Concord highway over Concord River and over tracks of Boston and Maine Railroad.
- Conway — Bridges on Deerfield Road over Mill River.
- Dartmouth — At Westport Factory over Noquochoke Lake.
- Deerfield — Extensions to bridges on Conway Road over Mill River.
- Great Barrington — North Plain Road over Williams River.
- Hinsdale — Middlefield Road over Housatonic River.
- Lakeville — Taunton Road at Middleborough line over Poquay Trout Brook.

Lawrence — Salem Turnpike over Shawsheen River.

Lexington — Grade separation of proposed Cambridge-Concord highway and Waltham Street.

Lincoln — South Great Road over tracks of Boston and Maine Railroad.

Littleton — State highway over tracks of Boston and Maine Railroad.

Lynn — Point of Pines bridge over Saugus River at the Revere line.

Newbury — Newburyport Turnpike over tracks of Boston and Maine Railroad.

Newton — Worcester Turnpike over Hammond Pond Parkway.

Oxford — Webster Road under tracks of New York, New Haven and Hartford Railroad; Webster Road over Taft Brook.

Pittsfield — Lebanon Avenue over tracks of Boston and Albany Railroad and over Shaker Brook.

Quincy — Washington Street over Weymouth Fore River, at Weymouth line.

Raynham — Taunton Turnpike over Taunton River, over Haskins Brook and over Damlot Brook.

Revere — East Boston Tunnel Road over oil pipe corridor and over Revere Beach Parkway and Winthrop Avenue, over highway and tracks of Boston and Maine Railroad. Traffic Road at Point of Pines over tracks of Boston, Revere Beach and Lynn Railroad and private property. Highway under Parkway near Eliot Circle.

Templeton — Phillipston Road over Crow Hill Brook.

Waltham — Main Street over tracks of Boston and Maine Railroad at Beaver Brook Station.

Weymouth — Main Street over tracks of New York, New Haven and Hartford Railroad.

Winchester — Grade separation of highway and tracks of Boston and Maine Railroad.

Yarmouth — West Yarmouth Road over Parkers River.

Examinations, Reports, Estimates, etc., at Request of Counties, Cities and Towns

Amesbury — Chain Bridge over Merrimack River; examination and report of condition.

Amesbury — Essex-Merrimack Bridge over Merrimack River; examination and report of condition.

Amherst — Meadow Street Bridge, North Amherst; examination and estimate for a new bridge.

Ashland — Howe Street over Indian Brook; examination and estimate for a new bridge.

Bedford — Middlesex Turnpike over Shawsheen River; examination and advice on strength of bridge under construction.

Chester — Main Street over West Branch of Westfield River; examination and estimate of repairs to bridge.

Conway — Bardwell's Bridge over Deerfield River; examination and estimate for repairs.

Framingham — Herbert Street over Beaver Dam Brook; examination and estimate for reconstruction of bridge.

Gill — At Montague line over Connecticut River; examinations and advice on repairs to bridge.

Greenfield — Site of Smead Bridge; estimate for new bridge.

Millville — Central Street over Blackstone River; examination and estimate for new bridge.

*Examinations, Reports, Estimates, etc., by direction of the Department.
Cities and Towns, Locality and Subject.*

Boston — Commonwealth Pier heating plant; advice on boiler installation.

Boston — D Street garage of Department; investigation of floor design.

- Boston — New building for Public Works Department; investigation of design of basement floor.
- Colrain — Center Bridge over East Branch of North River; estimate for cost of reconstruction.
- Dighton — At the Taunton line over Three Mile River; estimate for widening bridge.
- Marshfield — State highway over South River; estimate for widening bridge.
- Newburyport — At the Salisbury line over Merrimack River; estimate for repairs to bridge.

Bridge Plans Submitted and Examined during the Year under the provisions of Chapter 85, General Laws, as amended by Chapter 313 of Acts of 1923.

- Athol — Reconstruction of bridge on Chestnut Street over Mill Brook; reinforced concrete arch, 13-foot span.
- Concord — Repairs and additions to the three-arch bridge on Elm Street over Concord River.
- Fall River — Extension of Third Street Bridge over Quequechan River.
- Haverhill — Reconstruction of Country Bridge over East Meadow Brook; one 17-foot span.
- Haverhill — Reconstruction of Brandy Brow Bridge over East Meadow Brook; one 12-foot span.
- Haverhill — Reconstruction of North Avenue Bridge over Snow's Brook; one 13-foot span.
- Hingham — At the Weymouth line; alterations to Back River Bridge.
- Pittsfield — Bridge on West Housatonic Street over Southwest Branch of Housatonic River; one 28-foot span, steel stringer with concrete floor.
- Winchendon — George M. Whitney Memorial Bridge over Millers River; two 24-foot spans and one 26-foot span, reinforced concrete arches.
- Worcester — Southbridge Street bridge over Blackstone River; two spans, steel stringer bridge.

Examinations, Studies, Estimates and Reports by direction of Acts and Resolves of the Legislature.

- Chapter 450, Acts of 1931, Section 8. This section of the Act directs the department of public works "to make surveys and prepare plans and estimates of cost of a grade separation by means of an overpass at the intersection of the Riverway and Huntington Avenue in the City of Boston". Preliminary plans and estimates have been made.
- Chapter 241, Acts of 1932. "An Act providing for the construction of a new bridge over the Saugus river between the Point of Pines in the city of Revere and the city of Lynn". Plans and specifications have been completed.
- Chapter 258, Acts of 1932, Section 1. This section directs the department to lay out and construct a state highway "including any necessary alterations to the bridge at Beach Street, crossing the tracks of said railroad", referring to the Boston and Maine Railroad. The contract for the work has been awarded and construction work has started.
- Chapter 302, Acts of 1932. "An Act authorizing the laying out of a State highway extending from Alewife Brook Parkway in the city of Cambridge westerly through said city and the towns of Arlington, Belmont, Lexington, Lincoln and Concord." Preliminary studies for bridges in Concord have been made.
- Chapter 25, Resolves of 1932. "Resolve providing for an investigation and study by the department of public works, of traffic conditions on a portion of the Fall River-New Bedford highway." The report has been filed with the clerk of the house of representatives.

Chapter 27, Resolves of 1932. "Resolve providing for an investigation by the department of public works relative to the advisability of further dredging Lynn Harbor and Saugus River and of widening draws in bridges over said river." The report has been filed with the clerk of the house of representatives.

Chapter 32, Resolves of 1932. "Resolves providing for the making and preparation by the department of public works of surveys, estimates, plans and specifications for the construction of a new high level bridge over the Weymouth Fore River between the city of Quincy and the town of Weymouth." The report has been filed with the clerk of the senate.

BRIDGE OVER THE MERRIMACK RIVER BETWEEN NEWBURYPORT AND SALISBURY

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1933, was 153. In 1932 the number of such openings was 220; in 1931 the number was 415; and in 1930 the number was 335.

The total expenditure during the year was \$11,350.43.

The total expenditure from 1912 to Nov. 30, 1933, inclusive, was \$189,812.11.

BRIDGE OVER TAUNTON RIVER BETWEEN FALL RIVER AND SOMERSET

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and for operating the draw and maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1933, was 1,602. In 1932 the number of such openings was 1,662; in 1931 the number was 1,700; and in 1930 the number was 1,812.

The total expenditure during the year was \$16,703.60.

The total expenditure from 1912 to Nov. 30, 1933, inclusive, was \$371,618.48.

BRIDGE OVER THE ACUSHNET RIVER BETWEEN CITY OF NEW BEDFORD AND THE TOWN OF FAIRHAVEN

This bridge, which was placed in charge of the Department of Public Works and made a State highway by the provisions of Chapter 406, Acts of 1930, which also provided that the expense of keeping the bridge in good repair for travel, operating the draw and of maintaining the structure shall be paid by the Commonwealth, was taken over by the Department on June 27, 1930.

The number of draw openings while in charge of the Department beginning June 27, 1930, and ending Nov. 30, 1932, was 1,069. In 1931 the number of such openings was 2,564; in 1932 the number was 2,384; and in 1933 the number was 1,867.

The total expenditure during the year was \$14,486.01.

The total expenditure while in charge of the Department has been \$65,491.00.

CONSTRUCTION OF TOWN AND COUNTY WAYS

(Section 34, Chapter 90, General Laws, as revised and amended.)

During the year the Department has contracted for work to be done in the towns/cities named in the following table, which also shows the type of road, the length contracted for, and the allotments or contributions by the State, towns/cities and counties:

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	TYPE OF ROAD	LENGTH CON- TRACTED FOR (FEET)
<i>Barnstable County</i>					
Bourne	\$30,000 00	—	—	Bituminous macadam . . .	3,503
Orleans	5,000 00	2,500 00	2,500 00	Bituminous concrete . . .	4,000
Orleans	6,000 00	3,000 00	3,000 00	Bituminous concrete . . .	5,000
<i>Berkshire County</i>					
Adams	8,000 00	4,000 00	4,000 00	Stone and tar mixed in place	2,925
Alford	1,000 00	500 00	500 00	Gravel	800
Becket	3,000 00	1,500 00	1,500 00	Gravel	2,050
Becket	1,000 00	500 00	500 00	Gravel	575
Becket	1,000 00	500 00	500 00	Gravel	1,000
Cheshire	3,200 00	1,600 00	1,600 00	Gravel	2,150
Cheshire	500 00	—	—	Oiling	8,539
Clarksburg	2,000 00	1,000 00	1,000 00	Gravel	2,750
Egremont	3,200 00	1,600 00	1,600 00	{Stone retread {Gravel	1,765 2,500
Florida	4,000 00	4,000 00	—	Gravel	2,320
Great Barrington	15,000 00	10,000 00	5,000 00	Bituminous macadam . . .	5,305
Hancock	32,500 00	1,250 00	5,000 00	Bituminous macadam . . .	9,200
Hancock	1,000 00	350 00	—	Oiling	28,000
Hancock	1,000 00	500 00	—	Gravel	550
Hinsdale	3,000 00	500 00	1,000 00	Bridge	—
Lanesborough	4,000 00	2,000 00	2,000 00	Stone retread	2,100
Lee	2,000 00	1,000 00	1,000 00	Gravel	1,573
Lee	2,225 00	2,225 00	2,225 00	Bituminous macadam . . .	901
Lenox	3,000 00	1,500 00	1,500 00	Gravel	1,700
Monterey	500 00	250 00	250 00	Gravel	375
Mount Washington	1,500 00	500 00	1,000 00	Gravel	1,350
New Ashford	400 00	200 00	200 00	Gravel	450
New Marlborough	1,000 00	500 00	500 00	Stone retread	2,500
New Marlborough	3,000 00	1,500 00	1,500 00	Stone retread	7,500
New Marlborough	2,000 00	1,000 00	1,000 00	Stone retread	5,000
Otis	2,000 00	500 00	1,000 00	Gravel	1,200
Otis	4,000 00	500 00	2,000 00	Gravel	1,800
Pittsfield	24,000 00	12,000 00	12,000 00	Bituminous macadam . . .	9,899
Richmond	2,500 00	1,000 00	1,500 00	Gravel	2,150
Sandisfield	4,000 00	2,000 00	2,000 00	Gravel and stone retread . .	6,650
Sheffield	3,000 00	1,500 00	1,500 00	Gravel and stone retread . .	4,955
Sheffield	1,000 00	500 00	500 00	Gravel	1,000
Stockbridge	7,500 00	5,000 00	2,500 00	Bituminous macadam . . .	2,000
Tyringham	3,000 00	2,000 00	1,000 00	Stone retread	1,850
Washington	4,000 00	2,000 00	2,000 00	Gravel	2,200
West Stockbridge	6,000 00	3,000 00	3,000 00	Gravel	4,600
Williamstown	3,000 00	3,000 00	—	Gravel	1,564
Windsor	1,000 00	500 00	500 00	Gravel	750
Windsor	1,000 00	500 00	500 00	Gravel	650
<i>Bristol County</i>					
Berkley	2,000 00	1,000 00	1,000 00	Gravel	1,000
Berkley	1,000 00	1,000 00	—	Oiling	47,300
Easton	6,000 00	6,000 00	—	Gravel	2,080
Freetown	1,000 00	1,000 00	—	Oiling	68,300
Rehoboth	5,150 00	2,575 00	2,575 00	Bituminous macadam . . .	2,303
Rehoboth	2,850 00	1,425 00	1,425 00	Gravel	2,600
Westport	2,500 00	2,500 00	—	Repair bridge	—
<i>Dukes County</i>					
Chilmark	250 00	125 00	125 00	Bituminous concrete . . .	115
Oak Bluffs	17,584 14	10,000 00	14,915 86	Bituminous concrete . . .	11,000
Tisbury	21,800 00	10,900 00	—	Bituminous concrete . . .	3,825
<i>Essex County</i>					
Amesbury	500 00	500 00	—	Oiling	17,350
Amesbury	6,000 00	6,000 00	—	Bituminous macadam . . .	2,238
Boxford	1,000 00	1,000 00	—	Oiling	31,000
Boxford	14,400 00	1,600 00	—	Gravel and tar mixed in place	5,800
Georgetown	1,500 00	1,500 00	—	Gravel	1,500
Gloucester	5,000 00	5,000 00	—	Bituminous macadam . . .	2,800
Haverhill	30,000 00	30,000 00	—	Bituminous macadam . . .	20,918
*Marblehead	12,000 00	12,000 00	—	Bituminous macadam . . .	4,622
Merrimac	2,000 00	2,000 00	—	Gravel	3,700
Merrimac	1,000 00	—	—	Gravel	800
Merrimac	500 00	500 00	—	Gravel	2,150
Methuen	6,500 00	6,500 00	—	Bituminous macadam . . .	5,600
Middleton	500 00	500 00	—	Grading and drainage . . .	10,700
Middleton	500 00	500 00	—	Grading and drainage . . .	6,570
Nahant	1,500 00	1,500 00	—	Oiling	12,144
Rowley	500 00	500 00	—	Oiling	11,000

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	TYPE OF ROAD	LENGTH CON- TRACTED FOR (FEET)
Salisbury	16,000 00	—	—	Bituminous macadam	1,065
Salisbury	3,500 00	3,500 00	—	Broken stone and tar mixed in place	2,700
*Ipswich	1,500 00	1,500 00	—	Oiling	40,950
West Newbury	900 00	900 00	—	Oiling	8,448
<i>Franklin County</i>					
Ashfield	1,000 00	1,000 00	—	Gravel	900
Ashfield	2,000 00	1,000 00	1,000 00	Gravel	1,300
Ashfield	4,000 00	—	—	Repair and oiling	6,000
Ashfield	5,300 00	240 00	—	Oiling	31,680
Buckland	6,000 00	5,000 00	1,000 00	Gravel	6,000
Charlemont	2,000 00	1,000 00	1,000 00	Stone retread	3,500
Colrain	16,000 00	6,500 00	—	Gravel and tar	1,250
Colrain	2,000 00	1,000 00	1,000 00	Bituminous macadam	1,000
Conway	3,000 00	2,000 00	1,000 00	Gravel	2,400
Deerfield	3,000 00	2,000 00	1,000 00	Bituminous macadam	1,400
Erving	2,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	2,300
Gill	2,965 00	670 00	—	Oiling	35,376
Gill	2,000 00	1,000 00	1,000 00	Gravel	1,350
Greenfield	2,600 00	1,600 00	1,000 00	Stone retread	2,157
Greenfield	1,250 00	2,500 00	1,250 00	Bridge	—
Hawley	1,000 00	500 00	500 00	Gravel	600
Hawley	1,000 00	500 00	500 00	Gravel	1,500
Heath	2,000 00	1,000 00	1,000 00	Gravel	1,800
Leverett	2,000 00	1,000 00	1,000 00	Oiling	16,896
Leyden	2,000 00	1,000 00	1,000 00	Bituminous macadam	1,000
Monroe	1,000 00	500 00	500 00	Gravel and tar mixed in place	3,500
Montague	8,000 00	7,000 00	1,000 00	Bituminous macadam	2,975
New Salem	3,000 00	2,000 00	1,000 00	Oiling	49,104
New Salem	2,000 00	1,000 00	—	Gravel	1,650
Northfield	2,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	4,500
Orange	1,000 00	1,000 00	—	Gravel and tar	6,000
Orange	21,000 00	8,000 00	1,000 00	Bituminous macadam	2,400
Orange	400 00	320 00	—	Oiling	7,392
Rowe	2,000 00	1,000 00	1,000 00	Gravel	1,200
Shelburne	1,000 00	1,000 00	—	Bituminous macadam	1,000
Shelburne	2,000 00	1,500 00	500 00	Gravel	240
Shutesbury	2,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	3,000
Sunderland	4,000 00	1,000 00	1,000 00	Grading and drainage	3,800
Warwick	2,000 00	1,000 00	1,000 00	Gravel	1,400
Warwick	1,200 00	1,200 00	—	Gravel	500
Warwick	3,800 00	400 00	—	Oiling	43,824
Wendell	1,500 00	1,500 00	—	Oiling	21,648
Wendell	4,000 00	3,000 00	1,000 00	Gravel	3,000
<i>Hampden County</i>					
Agawam	7,500 00	5,000 00	2,500 00	Bituminous macadam	2,800
Blandford	3,000 00	1,700 00	1,700 00	Gravel	2,500
Brimfield	500 00	500 00	500 00	Oiling	27,296
Brimfield	3,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	1,132
Brimfield	1,500 00	1,000 00	500 00	Grading and drainage	2,837
Chester	5,000 00	800 00	4,000 00	Gravel and stone retread	3,220
Chester	5,000 00	800 00	4,000 00	Gravel and stone retread	5,200
Chester	1,100 00	300 00	400 00	Bituminous macadam and bridge repair	400
Chester	7,000 00	—	1,000 00	Stone retread	11,500
Chester	1,600 00	500 00	1,100 00	Stone retread	2,400
Chicopee	32,500 00	20,000 00	12,500 00	Bituminous macadam	7,690
East Longmeadow	5,000 00	2,000 00	3,000 00	Bituminous macadam	3,000
East Longmeadow	500 00	500 00	500 00	Gravel and tar mixed in place	4,400
Granville	8,000 00	2,000 00	5,000 00	Bituminous macadam	6,000
Granville	800 00	473 00	—	Oiling	10,560
Hampden	3,000 00	1,400 00	2,200 00	Bituminous macadam	1,550
Hampden	5,000 00	1,400 00	3,000 00	Bituminous macadam	3,000
Hampden	400 00	400 00	400 00	Oiling	4,752
Holland	4,060 00	1,000 00	3,200 00	Gravel and tar mixed in place	2,050
Holland	500 00	500 00	500 00	Oiling	18,200
Longmeadow	20,000 00	16,000 00	10,000 00	Bituminous macadam	11,112
Ludlow	8,000 00	4,000 00	4,000 00	Bituminous macadam	4,000
Monson	4,000 00	2,000 00	2,000 00	Gravel and tar mixed in place	2,050
Montgomery	5,000 00	1,000 00	3,000 00	Gravel	3,000
Palmer	1,000 00	1,000 00	1,000 00	Oiling	22,651
Palmer	5,000 00	1,000 00	2,000 00	Tar macadam mixed in place	3,450
Southwick	4,000 00	1,500 00	2,000 00	Bituminous macadam	2,000
Southwick	1,600 00	330 00	—	Oiling	21,813
Springfield	20,000 00	10,000 00	10,000 00	Bituminous macadam	4,155
Tolland	6,000 00	2,000 00	3,000 00	Bituminous macadam	11,635
Wales	3,000 00	1,000 00	2,000 00	Gravel and tar mixed in place	1,800
Wales	250 00	250 00	250 00	Oiling	7,000
West Springfield	12,000 00	6,000 00	6,000 00	Bituminous macadam	3,358
West Springfield	9,000 00	6,000 00	3,000 00	Bituminous macadam	2,328
Westfield	6,000 00	4,000 00	2,000 00	Bituminous macadam	4,300
Westfield	2,700 00	1,800 00	900 00	Bituminous macadam	1,700
Westfield	1,500 00	1,000 00	500 00	Bituminous macadam	4,300

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD	LENGTH CON-TRACTED FOR (FEET)
	State	Town	County		
Westfield	4,000 00	2,000 00	2,000 00	Bridge	—
Wilbraham	4,000 00	900 00	2,400 00	Bituminous macadam	2,312
<i>Hampshire County</i>					
Amherst	12,000 00	8,000 00	4,000 00	Bituminous macadam	5,935
Belchertown	16,250 00	3,750 00	5,000 00	Bituminous macadam	6,550
Belchertown	1,100 00	96 00	—	Oiling	12,919
Chesterfield	1,500 00	750 00	750 00	Gravel	1,080
Chesterfield	2,700 00	150 00	—	Oiling	31,680
Chesterfield	500 00	250 00	250 00	Gravel	450
Chesterfield	1,000 00	500 00	500 00	Gravel	800
Cummington	1,000 00	500 00	500 00	Gravel	500
Cummington	3,000 00	1,500 00	1,500 00	Gravel	2,200
Cummington	800 00	37 00	—	Oiling	7,800
Enfield	1,000 00	500 00	500 00	Oiling	20,064
Enfield	1,050 00	88 00	—	Gravel	800
Goshen	1,000 00	500 00	500 00	Gravel	500
Goshen	1,000 00	500 00	500 00	Gravel	700
Goshen	1,000 00	45 00	—	Oiling	9,400
Granby	2,000 00	1,000 00	2,000 00	Bituminous macadam	1,850
Granby	2,000 00	1,000 00	—	Oiling	16,368
Greenwich	750 00	750 00	—	Oiling	17,424
Huntington	4,200 00	1,000 00	1,000 00	Gravel	1,050
Huntington	1,800 00	1,000 00	1,000 00	Gravel and stone retread	1,800
Middlefield	400 00	200 00	200 00	Gravel	275
Middlefield	4,000 00	1,000 00	1,000 00	Gravel	2,100
Middlefield	400 00	200 00	200 00	Gravel	200
Northampton	7,000 00	5,000 00	2,000 00	Bituminous macadam	5,463
Pelham	1,000 00	500 00	500 00	Gravel	1,000
Pelham	6,800 00	1,200 00	2,000 00	Bituminous macadam	3,550
Plainfield	8,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	900
Plainfield	2,000 00	300 00	300 00	Gravel and tar mixed in place	1,000
Plainfield	9,000 00	77 00	—	Repairs and oiling	27,456
South Hadley	750 00	500 00	500 00	Gravel	100
Southampton	8,000 00	4,000 00	4,000 00	Repairs	200
Ware	4,000 00	2,000 00	2,000 00	Gravel and stone mixed in place with tar	600
Westhampton	1,500 00	750 00	750 00	Oiling	2,670
Williamsburg	700 00	165 00	—	Gravel	1,200
Williamsburgh	16,000 00	2,500 00	500 00	Oiling	11,600
Worthington	2,000 00	1,000 00	1,000 00	Bituminous macadam and bridge	900
Worthington	1,000 00	500 00	500 00	Gravel	925
Worthington	1,000 00	500 00	500 00	Gravel	650
Worthington	1,000 00	500 00	500 00	Gravel	400
<i>Middlesex County</i>					
Acton	3,750 00	2,500 00	1,250 00	Gravel and tar	4,100
Acton	2,000 00	2,000 00	2,000 00	Oiling	89,232
Arlington	7,000 00	3,500 00	3,500 00	Drainage	6,838
Arlington	15,000 00	7,500 00	7,500 00	Bituminous concrete	6,838
Ashby	1,000 00	500 00	1,000 00	Oiling	17,952
Ashland	1,000 00	1,000 00	1,000 00	Oiling	23,232
Ashland	1,000 00	600 00	400 00	Gravel	900
Ayer	1,500 00	1,500 00	1,500 00	Oiling	46,094
Ayer	3,750 00	2,500 00	1,250 00	Gravel	1,936
Ayer	2,500 00	2,500 00	2,500 00	Bridge repairs	—
Bedford	1,000 00	1,000 00	1,000 00	Oiling	46,464
Bedford	200 00	200 00	200 00	Bridge repairs	—
Belmont	7,000 00	5,000 00	2,000 00	Bituminous macadam	1,336
Billerica	5,600 00	4,000 00	1,600 00	Gravel and tar	4,200
Billerica	5,600 00	4,000 00	1,600 00	Gravel and tar	4,200
Billerica	7,000 00	5,000 00	2,000 00	Bridge and approaches	—
Billerica	3,000 00	3,000 00	3,000 00	Oiling	71,808
Boxborough	750 00	750 00	750 00	Oiling	37,438
Boxborough	1,500 00	500 00	500 00	Gravel	1,500
Burlington	2,500 00	2,500 00	1,000 00	Oiling	59,136
Burlington	4,500 00	3,000 00	1,500 00	Gravel and tar	3,800
Burlington	3,000 00	2,000 00	1,000 00	Gravel	3,000
Carlisle	4,000 00	1,500 00	2,000 00	Gravel	3,700
Carlisle	1,000 00	1,000 00	1,000 00	Oiling	64,944
Chelmsford	2,000 00	2,000 00	2,000 00	Oiling	78,672
Chelmsford	4,000 00	4,000 00	4,000 00	Bituminous concrete	2,170
Concord	15,000 00	10,000 00	5,000 00	Bituminous macadam	8,886
Dracut	1,000 00	1,000 00	1,000 00	Oiling	51,216
Dracut	4,500 00	3,000 00	1,500 00	Gravel	5,600
Dunstable	1,750 00	1,750 00	1,750 00	Oiling	49,104
Dunstable	3,000 00	1,000 00	1,000 00	Oiling	42,240
Framingham	18,000 00	12,000 00	6,000 00	Bituminous macadam	5,636
Groton	3,500 00	3,500 00	3,500 00	Oiling	48,048
Groton	10,000 00	4,000 00	6,000 00	Gravel	7,500
Holliston	1,500 00	1,500 00	1,500 00	Oiling	46,992
Hopkinton	9,000 00	3,000 00	3,000 00	Grading	3,080
				Bituminous macadam	2,400
				Bridge	—

COUNTIES AND TOWNS	CONTRIBUTIONS		TYPE OF ROAD	LENGTH CON-TRACTED FOR (FEET)
	State	Town		
Hopkinton	1,000 00	1,000 00	1,000 00 Oiling	66,528
Hudson	37,500 00	25,000 00	12,500 00 Bituminous macadam	15,478
Lexington	5,000 00	5,000 00	— Gravel and asphalt	5,300
Lincoln	2,500 00	2,500 00	2,500 00 Oiling	36,960
Littleton	1,800 00	1,800 00	1,800 00 Oiling	51,216
Littleton	1,300 00	900 00	500 00 Gravel	1,500
Littleton	1,300 00	900 00	500 00 Gravel	2,000
Lowell	30,000 00	30,000 00	— Bituminous macadam	7,605
Malden	20,000 00	25,000 00	5,000 00 Bituminous macadam	3,870
Marlborough	9,000 00	9,000 00	— Bituminous macadam	1,805
Melrose	8,000 00	4,000 00	— Gravel	2,500
Natick	1,000 00	1,000 00	1,000 00 Oiling	56,496
Natick	3,000 00	3,000 00	— Bituminous macadam	1,220
North Reading	2,000 00	2,000 00	2,000 00 Oiling	52,272
North Reading	4,500 00	3,000 00	1,500 00 Bituminous macadam	3,650
Pepperell	3,000 00	3,000 00	3,000 00 Oiling	62,336
Pepperell	3,000 00	2,000 00	1,000 00 Gravel	5,000
Reading	12,000 00	8,000 00	4,000 00 Bituminous macadam	900
Sherborn	13,000 00	5,000 00	7,000 00 Gravel	12,360
Sherborn	5,000 00	2,000 00	3,000 00 Bituminous macadam	5,914
Sherborn	2,000 00	2,000 00	2,000 00 Gravel	5,850
Shirley	1,500 00	1,500 00	1,500 00 Oiling	71,280
Stoneham	15,000 00	10,000 00	5,000 00 Oiling	51,216
Stow	1,200 00	1,200 00	1,200 00 Bituminous macadam	3,692
Sndbury	3,000 00	3,000 00	3,000 00 Oiling	41,184
Tewksbury	2,500 00	1,500 00	1,000 00 Oiling	79,728
Tewksbury	1,000 00	1,000 00	1,000 00 Gravel	3,500
Tewksbury	4,200 00	2,800 00	1,400 00 Gravel	35,640
Townsend	2,000 00	2,000 00	2,000 00 Oiling	1,500
Townsend	3,500 00	1,000 00	1,500 00 Bituminous macadam	32,736
Tyngsborough	2,000 00	2,000 00	2,000 00 Oiling	2,250
Tyngsborough	3,000 00	1,000 00	1,000 00 Gravel	73,360
Tyngsborough	3,000 00	1,000 00	1,000 00 Gravel	2,600
Tyngsborough	3,000 00	1,000 00	1,000 00 Gravel	2,700
Tyngsborough	3,000 00	1,000 00	1,000 00 Gravel	2,700
Wakefield	11,800 00	7,800 00	4,000 00 Bituminous macadam and	7,600
Waltham	500 00	500 00	500 00 bituminous concrete	400
Watertown	9,000 00	4,500 00	4,500 00 Bituminous macadam	1,590
Wayland	3,000 00	3,000 00	3,000 00 Bituminous macadam	48,576
Wayland	6,000 00	6,000 00	3,000 00 Oiling	2,400
Westford	5,000 00	5,000 00	5,000 00 Bituminous macadam	118,272
Westford	1,500 00	1,000 00	500 00 Oiling	2,000
Westford	1,500 00	500 00	1,000 00 Gravel	1,530
Westford	3,000 00	2,000 00	1,000 00 Gravel	2,500
Westford	4,000 00	1,000 00	2,000 00 Gravel	3,355
Wilmington	3,000 00	2,000 00	1,000 00 Gravel	3,000
Wilmington	1,000 00	1,000 00	1,000 00 Oiling	32,208
Winchester	32,500 00	32,500 00	— Bituminous concrete	9,740
<i>Norfolk County</i>				
Bellingham	2,650 00	—	1,325 00 Oiling	52,000
Foxborough	4,000 00	2,000 00	— Gravel	1,095
Foxborough	7,000 00	7,000 00	— Gravel and tar mixed in place	4,200
Franklin	10,000 00	10,000 00	— Gravel and tar	6,500
Medfield	1,000 00	1,000 00	1,000 00 Oiling	9,720
Medway	1,000 00	1,000 00	1,000 00 Oiling	—
Millis	1,000 00	1,000 00	1,000 00 Oiling	10,300
Needham	9,000 00	9,000 00	— Bituminous macadam	3,950
Norfolk	1,200 00	1,200 00	1,200 00 Oiling	51,163
Norfolk	600 00	300 00	300 00 Gravel	518
Walpole	2,500 00	2,500 00	— Oiling	12,000
Walpole	2,000 00	2,000 00	— Gravel stone	1,500
Walpole	2,000 00	2,000 00	— Gravel stone and tar	1,650
Weymouth	15,000 00	15,000 00	— Bituminous concrete	3,930
Wrentham	1,800 00	900 00	— Gravel	291
Wrentham	4,000 00	4,000 00	— Gravel and tar mixed in place	2,500
Wrentham	4,000 00	4,000 00	— Gravel	2,000
<i>Plymouth County</i>				
Bridgewater	2,000 00	2,000 00	Gravel and bituminous ma- cadam	5,000
Bridgewater	2,000 00	2,000 00	Gravel	4,318
Brocton	22,500 00	22,500 00	— Bituminous macadam	9,160
Carver	2,000 00	2,000 00	— Gravel and tar mixed in place	2,800
Hanover	7,500 00	3,750 00	3,750 00 Gravel and tar	8,300
Lakeville	1,500 00	750 00	750 00 Oiling	6,358
Marion	2,000 00	2,000 00	— Gravel and tar mixed in place	2,000
Middleborough	1,000 00	1,000 00	1,000 00 Oiling	18,746
Pembroke	4,000 00	2,500 00	1,500 00 Gravel and tar mixed in place	4,880
Rockland	12,000 00	6,000 00	6,000 00 Bituminous macadam	5,000
West Bridgewater	3,000 00	1,500 00	1,500 00 Bituminous macadam	1,532
West Bridgewater	3,000 00	1,500 00	1,500 00 Gravel	4,600

COUNTIES AND TOWNS	CONTRIBUTIONS		TYPE OF ROAD		LENGTH CON- TRACTED FOR
	State	Town	County		(FEET)
<i>Worcester County</i>					
Ashburnham	1,000 00	750 00	1,000 00	Oiling	39,350
Athol	1,500 00	1,500 00	1,500 00	Oiling	32,512
Auburn	15,000 00	10,000 00	5,000 00	{Stone and tar mixed in place {Gravel and tar mixed in place	3,275 4,600
Barre	6,000 00	5,000 00	4,000 00	Gravel and tar mixed in place and bridge	4,430
Barre	1,200 00	1,200 00	1,200 00	Gravel and tar mixed in place	1,350
Barre	300 00	300 00	300 00	Oiling	7,824
Berlin	8,000 00	3,500 00	4,000 00	Gravel and tar mixed in place	1,995
Berlin	2,500 00	1,000 00	2,500 00	Oiling	34,830
Blackstone	4,000 00	3,000 00	2,000 00	Broken stone and tar mixed in place	4,100
Blackstone	1,500 00	1,000 00	500 00	Gravel and tar mixed in place	1,800
Blackstone	1,000 00	1,000 00	1,000 00	Oiling	23,472
Bolton	15,000 00	2,000 00	5,000 00	Bituminous macadam	5,700
Bolton	1,000 00	500 00	1,000 00	Oiling	43,929
Boylston	4,000 00	1,000 00	2,000 00	Oiling	—
Boylston	11,000 00	3,000 00	7,000 00	Gravel and tar mixed in place	5 897
Boylston	2,000 00	1,000 00	2,000 00	Oiling	48,338
Brookfield	3,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	1,700
Brookfield	1,000 00	500 00	1,000 00	Oiling	21,400
Charlton	3,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	1,900
Charlton	500 00	200 00	500 00	Oiling	22,030
Clinton	10,000 00	—	—	Bituminous macadam	1,500
Dana	2,600 00	500 00	1,000 00	Gravel	900
Dana	2,500 00	1,000 00	2,500 00	Oiling	61,491
Douglas	4,500 00	2,000 00	2,500 00	Gravel and tar mixed in place	4 400
Dudley	9,000 00	5,000 00	4,000 00	Gravel and tar mixed in place	10,190
East Brookfield	2,500 00	1,000 00	1,500 00	Grading and bridge	1,550
East Brookfield	2,000 00	800 00	1,200 00	Grading and drainage	1 200
Grafton	2,000 00	2,000 00	2,000 00	Oiling	27,047
Hardwick	3,600 00	1,400 00	2,600 00	Bituminous macadam	1 596
Hardwick	1,300 00	1,300 00	1,300 00	Oiling	55,704
Harvard	2,000 00	1,000 00	2,000 00	Oiling	46,547
Holden	500 00	500 00	500 00	Oiling	34,048
Holden	5,000 00	3,000 00	2,000 00	Gravel and tar mixed in place	2,770
Hubbardston	1,000 00	500 00	1,000 00	Gravel and tar mixed in place	1,050
Hubbardston	6,000 00	2,000 00	2,000 00	Gravel and tar mixed in place	1 800
Hubbardston	1,400 00	700 00	1,400 00	Oiling	55,668
Leicester	4,000 00	1,500 00	2,000 00	Gravel and tar mixed in place	2,050
Lunenburg	1,000 00	500 00	1,000 00	Oiling	30,429
Mendon	1,100 00	500 00	1,100 00	Oiling	34,600
Mendon	4,600 00	1,100 00	2,000 00	Gravel and tar mixed in place	2,950
Milford	6,000 00	4,000 00	2,000 00	Bituminous macadam	2,690
Millville	3,000 00	—	3,000 00	Gravel and tar mixed in place	761
New Braintree	2,000 00	750 00	1,000 00	Gravel and tar mixed in place and bridge	750 39,109
New Braintree	1,000 00	500 00	1,000 00	Oiling	—
North Brookfield	4,000 00	2,000 00	1,500 00	Gravel and tar mixed in place and bridge	2,300 5,341
North Brookfield	200 00	200 00	200 00	Oiling	—
Northbridge	6,000 00	5,000 00	4,000 00	Gravel and tar mixed in place	4,600
Northbridge	2,000 00	1,500 00	4,000 00	Bituminous macadam	2 515
Northbridge	3,000 00	2,000 00	1,000 00	Gravel and tar mixed in place	1,900
Northbridge	1,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	2,100
Oakham	5,000 00	2,000 00	3,000 00	Oiling	9,300
Oakham	1,100 00	800 00	1,100 00	Gravel	5,000
Oxford	1,150 00	750 00	1,150 00	Oiling	28,809
Paxton	5,000 00	2,000 00	3,000 00	Oiling	34,918
Paxton	1,200 00	600 00	1,200 00	Gravel	3,800
Petersham	1,500 00	1,500 00	1,500 00	Oiling	15,470
Petersham	4,000 00	1,500 00	2,000 00	Oiling	37,563
Phillipston	4,500 00	1,000 00	2,000 00	Gravel and tar mixed in place	8 450
Phillipston	4,500 00	1,000 00	4,500 00	Gravel and tar mixed in place	7,250
Phillipston	500 00	500 00	500 00	Gravel and tar mixed in place	3,600
Princeton	4,000 00	1,500 00	2,000 00	Oiling	34,100
Princeton	2,000 00	1,000 00	2,000 00	Grading and bridge	949
Royalston	1,500 00	500 00	500 00	Oiling	70,980
Royalston	3,200 00	1,800 00	2,000 00	Gravel	19,430
Rutland	3,000 00	1,250 00	2,000 00	Oiling	50,637
Rutland	600 00	600 00	600 00	Gravel and tar mixed in place	1,860
Rutland	1,200 00	600 00	1,200 00	Gravel	2,815
Shrewsbury	15,000 00	10,000 00	5,000 00	Oiling	45,062
Southborough	1,700 00	1,700 00	1,700 00	Stone and tar mixed in place	625
Southborough	300 00	300 00	300 00	Gravel and tar mixed in place	7,075
Southbridge	15,000 00	10,000 00	5,000 00	Bituminous macadam and bridge	614
Spencer	6,000 00	2,500 00	4,000 00	Oiling	13,860
Spencer	500 00	500 00	500 00	Bituminous macadam	5,250
				Gravel and tar mixed in place	4,700
				Oiling	25,238

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD	LENGTH CONTRACTED FOR (FEET)
	State	Town	County		
Sterling	4,500 00	2,000 00	3,500 00	Gravel and tar mixed in place	5,850
Sterling	4,500 00	2,000 00	3,500 00	Gravel and tar mixed in place	3,685
Sterling	2,000 00	1,000 00	2,000 00	Oiling	61,411
Sturbridge	2,000 00	1,000 00	2,000 00	Gravel and tar mixed in place	2,000
Sutton	5,000 00	2,000 00	5,000 00	Gravel and tar mixed in place	4,450
Sutton	1,200 00	600 00	1,200 00	Oiling	28,979
Sutton	5,000 00	500 00	5,000 00	Gravel and tar mixed in place	6,200
Templeton	4,000 00	3,000 00	2,000 00	Gravel and tar mixed in place	4,200
Templeton	1,000 00	1,000 00	1,000 00	Oiling	40,347
Upton	5,000 00	2,000 00	3,000 00	Gravel and tar mixed in place	3,251
Upton	5,000 00	2,000 00	3,000 00	(Gravel and tar mixed in place	3,750
Upton . . . . .				)Grading	3,800
Upton	1,000 00	500 00	1,000 00	Oiling	8,450
Uxbridge	5,000 00	4,000 00	3,000 00	Gravel and tar mixed in place	6,500
Uxbridge	750 00	500 00	250 00	Oiling	5,280
Uxbridge	7,000 00	6,000 00	5,000 00	Gravel and tar mixed in place	6,100
Warren	800 00	400 00	800 00	Oiling	16,675
West Boylston	5,000 00	2,000 00	3,000 00	Gravel and tar mixed in place	5,000
West Boylston	1,000 00	800 00	1,000 00	Oiling	26,863
West Brookfield	3,000 00	1,000 00	2,000 00	Gravel and asphalt emulsion	
West Brookfield				mixed in place	4,200
West Brookfield	400 00	200 00	400 00	Oiling	8,525
Westborough	800 00	800 00	800 00	Oiling	39,960
Westminster	4,500 00	1,500 00	3,000 00	Gravel and tar mixed in place	8,955
Westminster	2,000 00	750 00	1,000 00	Gravel and tar mixed in place	1,566
Westminster	2,000 00	1,000 00	2,000 00	Oiling	49,772
Winchendon	1,200 00	600 00	1,200 00	Oiling	19,537

EXPENDITURES FOR CONSTRUCTION OF TOWN AND COUNTY WAYS

The expenditures during the year in various counties were:—

Barnstable, \$52,045.32	Hampshire, \$194,738.41
Berkshire, \$273,782.05	Middlesex, \$437,445.93
Bristol, \$22,540.35	Norfolk, \$69,591.17
Dukes, \$28,561.01	Plymouth, \$65,064.97
Essex, \$117,307.82	Worcester, \$361,846.58
Franklin, \$143,373.26	Total, \$1,968,729.01
Hampden, \$202,432.14	

Details of the foregoing expenditures follow:—

Barnstable County.—Bourne, \$36,605.18; Mashpee, \$1,885.83; Orleans, \$13,554.31.

Berkshire County.—Adams, \$7,699.27; Alford, \$2,033.37; Becket, \$6,469.11; Cheshire, \$6,866.04; Clarksburg, \$2,463.82; Egremont, \$3,943.07; Florida, \$4,928.83; Great Barrington, \$18,317.09; Hancock, \$39,742.23; Hinsdale, \$5,668.43; Lanesboro, \$6,269.91; Lee, \$6,949.05; Lenox, \$3,696.63; Monterey, \$614.37; Mt. Washington, \$1,848.07; New Ashford, \$492.65; New Marlboro, \$7,433.59; Otis, \$7,393.26; Peru, \$7,033.17; Pittsfield, \$29,163.52; Richmond, \$3,080.53; Sandisfield, \$4,928.84; Savoy, \$35,269.00; Sheffield, \$4,928.84; Stockbridge, \$9,931.27; Tyringham, \$4,066.29; Washington, \$4,928.61; West Stockbridge, \$9,848.42; Williamstown, \$25,310.74; Windsor, \$2,464.03.

Bristol County.—Berkley, \$3,955.25; Dartmouth, \$1,032.10; Easton, \$5,914.61; Freetown, \$1,232.21; Rehoboth, \$9,484.09; Swansea, \$922.09.

Dukes County.—Chilmark, \$267.20; Oak Bluffs, \$21,956.17; Tisbury, \$6,337.64.

Essex County.—Amesbury, \$7,929.25; Boxford, \$15,497.85; Georgetown, \$1,848.32; Gloucester, \$6,161.05; Haverhill, \$32,886.42; Ipswich, \$1,848.32; Marblehead, \$12,561.50; Merrimac, \$4,312.74; Methuen, \$6,432.74; Middleton, \$1,232.21; Nahant, \$1,848.28; Rowley, \$616.11; Salisbury, \$23,024.16; West Newbury, \$1,108.87.

Franklin County.—Ashfield, \$15,151.06; Buckland, \$7,393.26; Charlemont, \$2,464.42; Colrain, \$16,957.49; Conway, \$3,696.52; Deerfield, \$3,696.63; Erving, \$2,675.56; Gill, \$6,117.93; Greenfield, \$6,503.98; Hawley, \$2,464.42; Heath, \$2,464.42; Leverett, \$2,464.42; Leyden, \$2,464.42; Monroe, \$1,232.21; Montague, \$11,200.02; New Salem, \$6160.93; North-

field, \$2,464.42; Orange, \$21,308.72; Rowe, \$2,464.42; Shelburne, \$1,-232.21; Shutesbury, \$2,464.42; Sunderland, \$4,928.84; Warwick, \$8,-625.38; Wendell, \$6,777.16.

Hampden County.—Agawam, \$3,149.03; Blandford, \$5,048.58; Brimfield, \$6,143.50; Chester, \$24,244.45; Chicopee, \$14,495.87; East Longmeadow, \$6,777.16; Granville, \$12,327.16; Hampden, \$10,349.25; Holland, \$5,768.37; Longmeadow, \$11,768.87; Ludlow, \$7,622.27; Monson, \$3,-557.31; Montgomery, \$6,160.31; Palmer, \$4,168.29; Southwick, \$10,767.97; Springfield, \$17,063.47; Tolland, \$7,393.26; Wales, \$3,523.30; Westfield, \$17,497.39; West Springfield, \$17,834.15; Wilbraham, \$6,772.18.

Hampshire County.—Amherst, \$13,348.30; Belchertown, \$55,584.27; Chesterfield, \$7,020.52; Cummington, \$6,129.40; Enfield, \$2,526.03; Goshen, \$3,696.63; Granby, \$4,928.84; Greenwich, \$924.16; Huntington, \$7,146.82; Middlefield, \$10,589.56; Northampton, \$8,625.47; Pelham, \$11,-338.93; Plainfield, \$23,637.26; Southampton, \$5,878.83; South Hadley, \$1,564.22; Ware, \$4,928.84; Westhampton, \$9,241.58; Williamsburg, \$11,-585.50; Worthington, \$6,043.25.

Middlesex County.—Acton, \$7,085.21; Arlington, \$26,083.18; Ashby, \$1,232.21; Ashland, \$2,463.73; Ayer, \$6,646.84; Bedford, \$1,478.65; Belmont, \$11,313.34; Billerica, \$22,368.41; Boxboro, \$2,772.48; Burlington, \$11,335.38; Carlisle, \$5,175.25; Chelmsford, \$7,293.86; Concord, \$14,-828.80; Dracut, \$6,777.16; Dunstable, \$4,280.43; Framingham, \$21,-460.23; Groton, \$12,519.59; Holliston, \$1,868.68; Hopkinton, \$7,208.22; Hudson, \$40,352.57; Lexington, \$5,853.00; Lincoln, \$2,248.78; Littleton, \$5,421.49; Lowell, \$640.85; Malden, \$11,974.50; Marlboro, \$4,436.10; Melrose, \$1,330.49; Natick, \$4,922.43; No. Reading, \$8,009.30; Pepperell, \$7,393.26; Reading, \$11,424.63; Sherborn, \$26,643.44; Shirley, \$2,224.21; Stoneham, \$12,616.81; Stow, \$1,478.65; Sudbury, \$3,696.07; Tewksbury, \$7,793.53; Townsend, \$6,774.84; Tyngsboro, \$13,549.52; Wakefield, \$11,-958.53; Waltham, \$612.58; Watertown, \$10,319.16; Wayland, \$11,670.38; Westford, \$14,415.20; Wilmington, \$4,946.61; Winchester, \$30,547.35.

Norfolk County.—Bellingham, \$2,903.28; Foxboro, \$10,350.57; Franklin, \$8,956.57; Medfield, \$1,232.20; Medway, \$903.62; Millis, \$1,804.46; Needham, \$8,117.05; Norfolk, \$3,368.12; Plainville, \$1,481.77; Walpole, \$8,912.55; Weymouth, \$13,674.83; Wrentham, \$7,886.15.

Plymouth County.—Bridgewater, \$5,530.86; Brockton, \$13,528.48; Carver, \$2,464.42; Hanover, \$6,651.62; Lakeville, \$1,847.89; Marion, \$2,464.42; Marshfield, \$5,725.15; Middleboro, \$2,879.45; Pembroke, \$4,-928.84; Rockland, \$11,715.98; West Bridgewater, \$7,327.86.

Worcester County.—Ashburnham, \$3,926.20; Athol, \$1,848.32; Auburn, \$10,935.13; Barre, \$6,951.43; Berlin, \$11,034.72; Blackstone, \$6,811.97; Bolton, \$17,809.17; Boylston, \$21,013.75; Brookfield, \$2,731.97; Charlton, \$3,997.75; Clinton, \$9,368.59; Dana, \$6,713.49; Douglas, \$5,534.98; Dudley, \$3,755.88; East Brookfield, \$3,265.36; Grafton, \$2,427.89; Hardwick, \$5,426.41; Harvard, \$3,695.29; Holden, \$6,371.21; Hubbardston, \$10,-520.95; Leicester, \$4,928.67; Leominster, \$633.02; Lunenburg, \$8,210.35; Mendon, \$8,023.83; Milford, \$7,464.52; Millville, \$5,360.65; New Braintree, \$2,956.04; N. Brookfield, \$6,402.86; Northboro, \$352.46; Northbridge, \$11,171.12; Oakham, \$7,380.73; Oxford, \$1,399.53; Paxton, \$6,-703.50; Petersham, \$4,304.15; Phillipston, \$6,620.62; Princeton, \$7,-036.67; Royalston, \$6,407.45; Rutland, \$7,021.38; Shrewsbury, \$6,375.89; Southboro, \$1,879.12; Southbridge, \$15,929.77; Spencer, \$3,442.09; Sterling, \$11,900.92; Sturbridge, \$2,969.80; Sutton, \$14,237.48; Templeton, \$5,065.42; Upton, \$14,044.00; Uxbridge, \$12,094.76; Warren, \$2,118.59; West Boylston, \$7,822.91; West Brookfield, \$5,485.83; Westboro, \$985.77; Westminster, \$9,581.83; Winchendon, \$1,394.39.

REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS, IN CERTAIN TOWNS.

(Sections 26 to 29 and 31 of Chapter 81, General Laws, as amended)

During the year the Department contracted for work to be done in the towns named in the following table, which also shows the road mileage in the towns and the allotments or contributions by the State and towns:

Counties and Towns	Miles of Road	State	Allotment Town
<i>Barnstable County:</i>			
Brewster	40	\$4,000 00	\$4,000 00
Dennis	79	7,900 00	7,900 00
Eastham	41	4,100 00	3,075 00
Mashpee	27	2,700 00	2,025 00
Sandwich	67	6,700 00	6,700 00
Truro	29	2,900 00	3,625 00
Wellfleet	36	3,600 00	4,500 00
<i>Berkshire County:</i>			
Alford	19	1,900 00	760 00
Becket	58	5,800 00	2,320 00
Cheshire	42	4,200 00	4,200 00
Clarksburg	14	1,400 00	2,100 00
Egremont	32	3,200 00	2,400 00
Florida	43	4,300 00	3,225 00
Hancock	30	3,000 00	1,200 00
Hinsdale	35	3,500 00	2,625 00
Lanesborough	42	4,200 00	3,150 00
Monterey	52	5,200 00	2,080 00
Mount Washington	20	2,000 00	500 00
New Ashford	9	900 00	360 00
New Marlborough	85	8,500 00	3,400 00
Otis	49	4,900 00	1,225 00
Peru	37	3,700 00	555 00
Richmond	34	3,400 00	1,700 00
Sandisfield	79	7,900 00	1,185 00
Savoy	56	5,600 00	840 00
Sheffield	77	7,700 00	3,850 00
Tyringham	25	2,500 00	1,000 00
Washington	51	5,100 00	765 00
West Stockbridge	36	3,600 00	2,700 00
Windsor	65	6,500 00	975 00
<i>Bristol County:</i>			
Berkley	42	4,200 00	2,100 00
Freetown	47	4,700 00	3,525 00
Norton	57	5,700 00	5,700 00
Raynham	45	4,500 00	4,500 00
*Swansea	56	5,600 00	8,400 00
*Rehoboth	109	10,900 00	5,450 00
<i>Dukes County:</i>			
Chilmark	14	1,400 00	1,400 00
West Tisbury	13	1,300 00	1,950 00
<i>Essex County:</i>			
Boxford	53	5,300 00	2,650 00
Essex	21	2,100 00	3,150 00
Georgetown	35	3,500 00	4,375 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
Groveland	30	3,000 00	3,750 00
Merrimac	31	3,100 00	4,650 00
Middleton	30	3,000 00	4,500 00
Newbury	37	3,700 00	4,625 00
Rowley	31	3,100 00	3,100 00
Topsfield	38	3,800 00	5,700 00
West Newbury	37	3,700 00	2,775 00
<i>Franklin County:</i>			
Ashfield	81	8,100 00	3,240 00
Bernardston	40	4,000 00	3,000 00
Buckland	45	4,500 00	5,625 00
Charlemont	49	4,900 00	2,450 00
Colrain	84	8,400 00	3,360 00
Conway	72	7,200 00	2,880 00
Deerfield	74	7,400 00	9,250 00
Gill	34	3,400 00	2,550 00
Hawley	49	4,900 00	735 00
Heath	53	5,300 00	795 00
Leverett	38	3,800 00	1,520 00
Leyden	39	3,900 00	585 00
Monroe	18	1,800 00	2,250 00
Northfield	66	6,600 00	4,950 00
New Salem	64	6,400 00	960 00
Rowe	41	4,100 00	1,640 00
Shelburne	48	4,800 00	6,000 00
Shutesbury	40	4,000 00	1,000 00
Warwick	55	5,500 00	825 00
Wendell	48	4,800 00	2,400 00
<i>Hampden County:</i>			
Blandford	78	7,800 00	1,950 00
Brimfield	59	5,900 00	2,950 00
Chester	68	6,800 00	3,400 00
Granville	72	7,200 00	5,400 00
Hampden	34	3,400 00	1,700 00
Holland	30	3,000 00	450 00
Monson	101	10,100 00	7,575 00
Montgomery	27	2,700 00	675 00
Southwick	50	5,000 00	5,000 00
Tolland	41	4,100 00	615 00
Wales	25	2,500 00	1,000 00
Wilbraham	43	4,300 00	6,450 00
<i>Hampshire County:</i>			
Belchertown	112	11,200 00	4,480 00
Chesterfield	59	5,900 00	1,475 00
Cummington	49	4,900 00	1,225 00
Enfield	37	3,700 00	1,480 00
Goshen	28	2,800 00	700 00
Hadley	58	5,800 00	7,250 00
Granby	48	4,800 00	2,400 00
Greenwich	39	3,900 00	1,560 00
Huntington	41	4,100 00	3,075 00
Middlefield	41	4,100 00	615 00
Pelham	39	3,900 00	1,560 00
Plainfield	49	4,900 00	735 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
Prescott	39	3,900 00	585 00
Southampton	56	5,600 00	2,240 00
Westhampton	50	5,000 00	750 00
Williamsburg	43	4,300 00	3,225 00
Worthington	68	6,800 00	1,020 00
<i>Middlesex County:</i>			
Acton	58	5,800 00	8,700 00
Ashby	56	5,600 00	2,240 00
Ashland	38	3,800 00	5,700 00
Bedford	35	3,500 00	5,250 00
Boxborough	23	2,300 00	920 00
Burlington	34	3,400 00	5,100 00
Carlisle	42	4,200 00	3,150 00
Dracut	61	6,100 00	9,150 00
Dunstable	37	3,700 00	925 00
Groton	70	7,000 00	10,500 00
Holliston	50	5,000 00	7,500 00
Hopkinton	66	6,600 00	6,600 00
Lincoln	40	4,000 00	6,000 00
Littleton	42	4,200 00	5,250 00
North Reading	31	3,100 00	4,650 00
Pepperell	68	6,800 00	6,800 00
Sherborn	43	4,300 00	4,300 00
Shirley	46	4,600 00	4,600 00
Stow	45	4,500 00	3,375 00
Sudbury	64	6,400 00	4,800 00
Tewksbury	56	5,600 00	8,400 00
Townsend	70	7,000 00	5,250 00
Tyngsborough	40	4,000 00	3,000 00
Westford	85	8,500 00	10,625 00
<i>Norfolk County:</i>			
Bellingham	44	4,400 00	6,600 00
Medfield	40	4,000 00	6,000 00
Medway	44	4,400 00	6,600 00
Millis	39	3,900 00	5,850 00
Norfolk	41	4,100 00	4,100 00
Plainville	32	3,200 00	4,000 00
<i>Plymouth County:</i>			
Carver	68	6,800 00	6,800 00
Halifax	34	3,400 00	3,400 00
Hanson	36	3,600 00	5,400 00
Lakeville	42	4,200 00	3,150 00
Norwell	47	4,700 00	4,700 00
Pembroke	48	4,800 00	6,000 00
Plympton	30	3,000 00	1,500 00
Rochester	50	5,000 00	3,750 00
<i>Worcester County:</i>			
Ashburnham	75	7,500 00	5,625 00
Barre	110	11,000 00	8,250 00
Berlin	39	3,900 00	2,925 00
Blackstone	34	3,400 00	5,100 00
Bolton	53	5,300 00	2,650 00
Boylston	40	4,000 00	3,000 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
Brookfield	37	3,700 00	3,700 00
Charlton	116	11,600 00	4,640 00
Dana	43	4,300 00	1,720 00
Douglas	70	7,000 00	5,250 00
Dudley	63	6,300 00	7,875 00
East Brookfield	19	1,900 00	2,375 00
Grafton	68	6,800 00	10,200 00
Hardwick	96	9,600 00	7,200 00
Harvard	56	5,600 00	5,600 00
Holden	77	7,700 00	7,700 00
Hubbardston	75	7,500 00	1,875 00
Lancaster	58	5,800 00	7,250 00
Leicester	66	6,600 00	8,250 00
Lunenburg	66	6,600 00	4,950 00
Mendon	36	3,600 00	3,600 00
New Braintree	49	4,900 00	1,225 00
North Brookfield	69	6,900 00	6,900 00
Northborough	46	4,600 00	4,600 00
Oakham	45	4,500 00	1,125 00
Oxford	66	6,600 00	8,250 00
Paxton	29	2,900 00	2,175 00
Petersham	70	7,000 00	3,500 00
Phillipston	41	4,100 00	1,025 00
Princeton	72	7,200 00	2,880 00
Royalston	67	6,700 00	1,675 00
Rutland	68	6,800 00	3,400 00
Southborough	45	4,500 00	6,750 00
Spencer	100	10,000 00	12,500 00
Sterling	72	7,200 00	5,400 00
Sturbridge	70	7,000 00	3,500 00
Sutton	84	8,400 00	4,200 00
Templeton	63	6,300 00	7,875 00
Upton	60	6,000 00	4,500 00
Warren	71	7,100 00	8,875 00
West Boylston	35	3,500 00	5,250 00
West Brookfield	53	5,300 00	3,975 00
Westborough	57	5,700 00	8,550 00
Westminster	77	7,700 00	3,080 00

EXPENDITURES FOR REPAIR AND IMPROVEMENT OF PUBLIC WAYS

The expenditures during the year in various Counties were:—

Barnstable, \$32,763.89	Hampden, \$68,996.61
Berkshire, \$109,474.33	Hamphire, \$93,087.88
Bristol, \$39,614.04	Middlesex, \$132,274.53
Dukes, \$3,192.59	Norfolk, \$25,779.72
Essex, \$35,043.94	Plymouth, \$38,256.93
Franklin, \$115,299.03	Worcester, \$270,729.66
	Total, \$964,513.15

Details of the foregoing expenditures follow:

Barnstable County.—Brewster, \$4,102.97; Dennis, \$7,563.83; Eastham, \$4,549.18; Mashpee, \$2,786.10; Sandwich, \$6,992.45; Truro, \$3,047.30; Wellfleet, \$3,722.06.

Berkshire County.—Alford, \$1,496.47; Becket, \$7,101.71; Cheshire, \$4,178.07; Clarksburg, \$1,692.59; Egremont, \$3,017.37; Florida, \$4,493.72; Hancock, \$3,871.19; Hinsdale, \$3,590.31; Lanesboro, \$4,712.75; Monterey,

\$5,805.16; Mt. Washington, \$2,003.32; New Ashford, \$810.81; New Marlboro, \$9,960.50; Otis, \$4,955.80; Peru, \$3,610.46; Richmond, \$4,132.33; Sandisfield, \$9,490.12; Savoy, \$6,156.91; Sheffield, \$8,879.67; Tyringham, \$2,573.66; Washington, \$5,678.26; West Stockbridge, \$3,918.77; Windsor, \$7,344.38.

Bristol County.—Berkley, \$5,440.76; Freetown, \$5,115.11; Norton, \$6,203.43; Raynham, \$4,897.44; Rehoboth, \$11,862.70; Swansea, \$6,094.60.

Dukes County.—Chilmark, \$1,712.47; West Tisbury, \$1,480.12.

Essex County.—Boxford, \$5,768.10; Georgetown, \$3,809.12; Groveland, \$3,264.96; Merrimac, \$3,373.80; Middleton, \$3,264.96; Newbury, \$4,026.79; Rowley, \$3,373.80; Topsfield, \$4,135.62; West Newbury, \$4,026.79.

Franklin County.—Ashfield, \$8,080.78; Bernardston, \$4,353.27; Buckland, \$5,060.69; Charlemont, \$4,843.03; Colrain, \$9,794.12; Conway, \$8,372.29; Deerfield, \$7,971.95; Gill, \$3,781.92; Hawley, \$5,332.77; Heath, \$5,768.10; Leverett, \$4,026.79; Leyden, \$4,244.45; Monroe, \$1,904.56; New Salem, \$6,992.46; Northfield, \$6,747.59; Rowe, \$4,353.28; Shelburne, \$6,421.09; Shutesbury, \$4,217.24; Sunderland, \$244.87; Warwick, \$5,686.48; Wendell, \$5,958.56; Whately, \$1,142.74.

Hampden County.—Blandford, \$8,897.70; Brimfield, \$6,572.87; Chester, \$7,609.83; Granville, \$7,835.77; Hampden, \$3,455.42; Holland, \$2,882.54; Monson, \$11,406.89; Montgomery, \$3,295.09; Southwick, \$5,441.61; Tolland, \$4,634.98; Wales, \$2,311.34; Wilbraham, \$4,652.57.

Hampshire County.—Belchertown, \$12,188.72; Chesterfield, \$6,419.58; Cummington, \$5,332.75; Enfield, \$3,342.31; Goshen, \$3,047.30; Granby, \$4,870.24; Greenwich, \$4,434.59; Hadley, \$6,312.23; Hatfield, \$1,224.36; Huntington, \$4,190.43; Middlefield, \$4,462.12; Pelham, \$4,162.83; Plainfield, \$5,332.77; Prescott, \$3,645.88; Southampton, \$6,094.60; Westhampton, \$5,441.60; Williamsburg, \$4,679.78; Worthington, \$7,905.79.

Middlesex County.—Acton, \$6,312.26; \$6,094.60; Ashland, \$4,135.62; Bedford, \$3,809.12; Boxboro, \$2,503.14; Burlington, \$3,700.29; Carlisle, \$4,570.95; Dracut, \$6,638.76; Dunstable, \$4,026.79; Groton, \$7,618.25; Holliston, \$5,441.60; Hopkinton, \$8,858.93; Lincoln, \$4,353.28; Littleton, \$4,570.95; No. Reading, \$3,373.80; Pepperell, \$7,400.58; Sherborn, \$4,679.78; Shirley, \$5,006.28; Stow, \$4,897.44; Sudbury, \$6,965.25; Tewksbury, \$6,094.60; Townsend, \$7,618.25; Tyngsboro, \$4,353.28; Westford, \$9,250.73.

Norfolk County.—Bellingham, \$4,448.63; Medfield, \$4,353.28; Medway, \$4,788.61; Millis, \$4,244.45; Norfolk, \$4,462.12; Plainville, \$3,482.63.

Plymouth County.—Carver, \$7,236.59; Halifax, \$4,002.87; Hanson, \$4,256.02; Lakeville, \$4,521.61; Norwell, \$4,944.69; Pembroke, \$4,750.42; Plympton, \$3,270.79; Rochester, \$5,273.94.

Worcester County.—Ashburnham, \$7,817.80; Barre, \$11,330.82; Berlin, \$3,843.80; Bolton, \$5,554.63; Boylston, \$4,361.00; Brookfield, \$4,431.60; Charlton, \$12,725.18; Dana, \$4,237.90; Douglas, \$6,658.55; Dudley, \$6,856.42; East Brookfield, \$1,929.63; Grafton, \$6,506.09; Harvard, \$6,094.60; Hardwick, \$10,273.47; Holden, \$7,552.08; Hubbardston, \$7,351.04; Lancaster, \$6,312.26; Leicester, \$6,358.65; Lunenburg, \$7,434.82; Mendon, \$3,836.32; New Braintree, \$4,410.14; No. Brookfield, \$5,807.44; Northboro, \$5,006.28; Oakham, \$4,157.49; Oxford, \$5,281.86; Paxton, \$3,250.03; Petersham, \$7,618.25; Phillipston, \$4,462.12; Princeton, \$6,704.75; Royalston, \$7,286.36; Rutland, \$6,039.51; Southboro, \$4,706.41; Spencer, \$11,779.99; Sterling, \$7,786.41; Sturbridge, \$6,292.57; Sutton, \$7,701.31; Templeton, \$6,063.80; Upton, \$5,382.90; Warren, \$7,696.49; West Boylston, \$3,260.89; West Brookfield, \$4,276.10; Westboro, \$6,203.43; Westminster, \$8,088.47.

HIGHWAY IMPROVEMENTS AUTHORIZED BY SPECIAL ACTS

In accordance with the provisions of Chapter 347, Acts of 1933, the following contract was entered into:—

Quincy-Weymouth, September 27, 1933, contract made with Blakeslee Rollins Corporation, of Boston, for furnishing and erecting a temporary bridge with approaches over Fore River; the surface of the approaches consisting of bituminous macadam. The proposal amounted to \$86,924.10. Work about one-fourth completed. Expenditure during 1933, \$29,806.61.

In accordance with the provisions of Chapter 445, Acts of 1931, as amended by Chapter 258, Acts of 1932, the following contract was entered into:—

Revere, February 28, 1933, contract made with C & R Construction Company, of Boston, for constructing and reconstructing about 5,980 feet of State and City Highway; the surface consisting of bituminous macadam. The proposal amounted to \$131,909.84. Work completed October 7, 1933. Expenditure during 1933, \$123,407.99.

In accordance with the provisions of Chapter 302, Acts of 1932, the following contract was entered into:—

Cambridge-Arlington-Belmont, October 25, 1933, contract made with B. Perini & Sons, Inc., of Framingham, for constructing about 8,220 feet of State highway on new location in Cambridge, Arlington and Belmont; and constructing a reinforced concrete bridge over Alewife Brook at the dividing line between the town of Arlington and city of Cambridge, a three-span steel stringer bridge over the Boston & Maine Railroad in Arlington, and a two-span steel stringer bridge under Pleasant Street at the dividing line between the towns of Arlington and Belmont; the surface of the roadway consisting of sections of reinforced cement concrete, bituminous macadam, and reinforced cement concrete on each side of bituminous macadam section, and the surface over the bridges consisting of bituminous concrete. The proposal amounted to \$556,931.18. Work just commenced. Expenditure during 1933, \$23,898.00.

In accordance with the provisions of Chapter 420, Acts of 1930, as amended by Chapter 454, Acts of 1931, the following contract was entered into:—

Boston, November 23, 1933, contract made with A. G. Tomasello & Son, Inc., of Boston, for constructing about 1,568 feet of State highway on Water Street; the surface consisting of cement concrete "Sheet Type" in the center and one lane of bituminous macadam on each side. The proposal amounted to \$36,546.40. Work not yet commenced.

NEW OFFICE BUILDING FOR DEPARTMENT OF PUBLIC WORKS AND WORK INCIDENTAL THERETO

April 11, 1933, contract made with the Laboratory Furniture Co., Inc., of New York, for furnishing, building and installing laboratory furniture. The proposal amounted to \$2,282.20. Work completed July 21, 1933. Expenditure during 1933, \$2,084.57.

April 18, 1933, contract made with the Allen Shade Holder Company, Inc., of Boston, for furnishing and installing window shades. The proposal amounted to \$2,054.57. Work completed August 12, 1933. Expenditure during 1933, \$3,015.57.

April 28, 1933, contract made with The Massachusetts Motor Trucking & Garage Co., of Boston, for moving furniture and equipment of the Engineering and Main Offices of the Department of Public Works. The proposal amounted to \$1,891.75. Work completed May 23, 1933. Expenditure during 1933, \$1,980.15.

May 9, 1933, contract made with The E. F. Hauserman Company, of Boston, for dismantling and re-assembling office partitions for the Engineering Offices of the Department of Public Works. The proposal

amounted to \$394.00. Work completed July 29, 1933. Expenditure during 1933, \$574.00.

June 21, 1933, contract made with Snead & Company, of Boston, for furnishing and installing metal partitions. The proposal amounted to \$9,950.00. Work completed January 15, 1934. Expenditure during 1933, \$8,037.10.

Nov. 21, 1933, contract made with the Allen Shade Holder Company, Inc., of Boston, for furnishing and installing window shades. The proposal amounted to \$1,388.29. Work not yet commenced.

Nov. 21, 1933, contract made with Snead & Company, of Boston, for furnishing and erecting steel office partitions. The proposal amounted to \$13,301.50. Work not yet commenced.

Nov. 29, 1933, contract made with F. E. Berry Jr. & Co. Inc., of Boston, for furnishing and installing acoustical treatment on ceilings. The proposal amounted to \$2,400.00. Work not yet commenced.

MISCELLANEOUS CONTRACTS

Boston-Brookline.—April 18, 1933, contract made with the Bay State Tree Surgery Company, of Lancaster, for furnishing and planting trees on the West Roxbury Parkway. The proposal amounted to \$3,435.88. Work completed May 20, 1933. Expenditure during 1933, \$3,195.70.

Revere.—June 14, 1933, contract made with McGunigle & Tounge, Inc., of Boston, for furnishing in place conduits, combinations post boxes and cables on Beach Street, Winthrop Avenue and Ocean Avenue. The proposal amounted to \$2,173.00. Work completed September 5, 1933. Expenditure during 1933, \$2,263.56.

TRANSFER OF PORTION OF GASOLINE TAX UNDER PROVISIONS OF CHAPTER 370, ACTS OF 1933

The state treasurer is hereby authorized and directed to transfer the sum of eight million, twenty-eight thousand three hundred and twenty dollars from the Highway Fund to the General Fund.

THE REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW

(Sections 29-33, Chapter 93, General Laws, as amended)

In accordance with the provisions of sections 29 to 33 inclusive, chapter 93, General Laws, as amended by chapters 85, 237, 334 and 490, Acts of 1924, providing for the control of billboards and other advertising devices on public ways or on private property within public view of any highway, public park or reservation, the Department adopted on Jan. 24, 1924, certain new rules and regulations, superseding all former issues; and these have continued in force during the present year.

Applications, Licenses and Permits.—Licenses were granted to 25 individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 342 applications received for permits for the erection of advertising signs, 175 permits have been granted; and 29 permits were granted on applications filed previous to 1933. Sixty-one (61) applications for the erection of new signs were not approved because the locations were in violation of the rules and regulations adopted Jan. 24, 1924; and 23 applications for permits were cancelled.

Of 2,888 renewal applications sent to those whose permits were to expire June 30, 1933, 2,617 were returned to the Department requesting renewal; and on account of the advertisers failing to renew, 271 permits were cancelled. The number of renewal applications approved, to be in force until June 30, 1934 was 2,861. The total number of permits in force November 30, 1933, was 2,971.

Receipts and Expenditures.—The total receipts for the year ending

November 30, 1933, were \$13,231.92 and the expenditures were \$21,092.36, excess of the expenditures over the receipts being due to printing and extra services rendered in connection with litigation now pending before the Mass. Supreme Court—Suffolk County No. 42843. Eq.

The Removal of Signs.—The "sign Patrol" consisting of small trucks completely equipped for the work, have removed 140,000 signs during the year in addition to 10,000 removed by other agents of the Department, under authority of section 30 A, Chapter 93, General Laws, from within the highways and from private property.

Injunction:—On June 19, 1925, a temporary injunction was granted the General Outdoor Advertising Company, Inc., and others, as complainants enjoining and restraining the Commissioners, constituting the Department of Public Works, for the Commonwealth, until the further order of the Court, from proceeding in any way against them for any alleged failure to comply with the Rules and Regulations for the control and restriction of the billboards, signs and other devices, promulgated under date of Jan. 24, 1924. This injunction is still in force and will be until the case is settled in Court.

Hearings.—Hearings were given to officials of Brookline, Leominster, Lexington, Stoneham, Winchester.

CONTRACT PRICES DEC. 1, 1932, TO NOV. 30, 1933

TOWN OR CITY	CONTRACTOR	EXCAVATION			BORROW		Plain Concrete Masonry (Cu. Yd.)	Asphalt (Gal.)
		Earth (Cu. Yd.)	Ledge (Cu. Yd.)	Trench (Cu. Yd.)	Ord. (Cu. Yd.)	Gravel (Cu. Yd.)		
*Amesbury . . .	J. E. Watkins Co.	\$0 25	\$1 25	\$0 65	\$0 20	\$0 25	\$14 00	\$0 09
Arlington . . .	A. & P. Construction Co. . . .	0 25	1 50	-	-	0 25	-	0 085
*Arlington, Belmont & Cambridge . .	B. Perini & Sons	0 33	2 00	0 75	0 39	0 71	13 00	0 085
*Ashby & Town- send	G. Rotundi & Son	0 35	1 70	0 80	-	0 40	14 00	0 105
†Barre	R. H. Newell Co.	0 30	1 50	0 90	-	0 30	15 00	-
*Boston-Hyde Park	A. G. Tomasello & Son	0 30	1 00	0 75	0 30	0 60	12 00	0 09
Bourne	Arute Bros., Inc.	0 20	2 00	0 40	0 10	0 20	12 00	0 09
*Brookline & Newton	Coleman Bros.	0 22	1 25	1 00	0 22	0 28	13 00	0 08
*Burlington, Win- chester & Woburn	M. McDonough	0 25	1 50	0 75	-	0 40	10 00	0 09
*Charlton & Oxford	Lane Construction Corp. . . .	0 60	0 60	2 00	-	0 65	20 00	0 10
*Chester	National Construction Co. . .	0 75	-	2 00	0 40	0 40	16 00	0 11
Clinton	Menici Construction Co. . . .	0 25	3 00	1 00	-	0 35	15 00	0 09
*Cohasset & Scitu- ate	C. M. Callahan, Inc.	0 20	1 00	0 50	0 20	0 30	12 00	0 08
Colrain	N. Beacco & Son	0 40	1 30	2 00	0 35	-	10 00	0 14
*Conway & Deer- field	Kelleher Corp.	0 75	0 75	1 10	0 20	0 45	15 00	0 10
*East Boston & Re- vere	A. G. Tomasello	0 45	3 00	1 00	0 45	0 85	15 00	0 085
Eastham	S. W. Lawrence	0 22	-	0 50	0 22	-	15 00	0 12
*Easton & Stoughton	C. Bianchi & Co.	0 35	1 75	0 80	0 35	0 40	18 00	0 115
Hancock	Kelleher Corp.	0 28	0 28	0 75	0 28	0 37	12 00	0 10
*Huntington . . .	Lane Construction Corp. . . .	0 40	0 40	1 25	0 10	0 60	17 00	0 09
*Lanesboro & Pitts- field	Lane Construction Corp. . . .	0 30	0 30	0 50	0 30	0 40	18 00	0 10
*Lawrence & North Andover	S. Rotundi & Sons	0 30	2 00	0 80	-	0 50	16 00	0 12
*Lynn & Revere . .	Crandall Engineering Co. . .	-	1 00	1 00	0 35	0 75	-	-
*Marshfield & Scit- uate	Lee Construction Co.	0 35	2 00	1 25	0 25	0 42	20 00	0 105
*†Mattapoisett . .	State Forces	0 45	2 00	0 80	0 35	0 47	14 00	0 11
Middleboro . . .	Arute Bros., Inc.	0 15	1 00	0 40	-	0 10	10 00	0 079
*Newbury	E. H. Lewis	0 15	4 00	0 65	-	0 37	10 00	0 10
Orange	E. Barilone Co.	0 30	2 00	0 45	-	0 35	10 00	0 12
†Oxford & Webster	C. & R. Construction Co., Inc.	0 30	0 30	0 70	0 30	0 30	10 00	0 08
Pelham	Kelleher Corp.	0 45	2 50	1 10	0 40	0 50	16 00	0 10
Pittsfield	C. B. Lindholm	0 25	0 25	0 60	0 25	0 40	15 00	0 10
Pittsfield	Lee Construction Co., Inc. . .	0 20	1 50	0 60	-	0 30	-	0 10
*Quincy & Wey- mouth	Blakeslee & Rollins Corp. . .	0 28	-	0 75	0 60	0 50	10 00	0 09
Rehoboth	E. F. Jones	0 15	3 00	0 20	0 30	0 30	12 00	0 09
Revere (Secs. 2 & 3)	C. & R. Construction Co. . .	0 20	0 01	0 40	0 25	0 48	10 00	0 07
Sherborn	E. H. Lewis	0 25	4 00	0 30	0 32	0 32	15 00	0 09
Southampton . .	D. O'Connell's Sons	0 30	0 38	1 25	0 40	0 65	15 50	-
*Sterling-West Boylston	M. Pandolph Co.	0 39	5 00	1 25	0 39	0 39	20 00	0 095
*Templeton . . .	Lane Construction Co. . . .	0 50	0 50	1 25	0 25	0 50	16 00	0 09
Wareham	S. W. Lawrence	0 28	2 00	0 80	-	0 35	15 00	0 10
Williamsburg . . .	M. Siano & Son	0 29	0 90	-	0 22	0 65	-	0 12
Williamstown . .	J. F. Fitz-Gerald	0 25	1 10	0 80	0 22	0 30	12 00	0 10
†Yarmouth	S. W. Lawrence	0 10	2 00	0 50	0 10	-	15 00	0 09

¶ (Barre) Later awarded to Town Forces.

† (Mattapoisett) State Force Job on basis of low bid.

‡ Federal Aid Emergency construction projects.

* N. R. A. projects.

CONTRACT PRICES DEC. 1, 1932, TO NOV. 30, 1933

Concrete Surface (Cu. Yd.)	Broken Stone (Cu. Yd.)	Cable Guard Rail (Lin. Ft.)	PIPE CULVERTS (lineal feet)								Stock Fence (Lin. Ft.)	Catch Basins (Each)	Reinf. Conc. Ma- sonry (Cu. Yd.)	Reinf. Steel for Struct (Lb.)
			CLAY			REINF. CONCRETE								
			10 in.	12 in.	15 in.	12 in.	15 in.	18 in.	24 in.					
-	\$1 20 1 20	\$0 42	-	\$0 45	-	\$0 70	-	-	-	\$0 15	\$50 00	\$14 00	\$0 05	
\$7 73	1 70	-	-	0 60	-	0 95	\$1 50	\$1 70	\$2 65	0 18	47 00	13 25	0 035	
-	2 25	0 45	\$0 40	0 52	-	0 90	1 40	1 80	-	0 20	42 00	17 00	0 05	
-	-	0 40	-	-	-	-	-	-	-	0 15	-	15 00	0 06	
7 75	1 50	-	0 45	0 60	-	-	-	-	-	-	60 00	-	-	
-	2 00	0 35	-	-	-	-	-	-	-	0 12	30 00	-	-	
5 00	1 60	-	0 40	0 50	\$1 00	1 00	-	-	2 50	-	48 00	13 00	0 035	
-	1 30	0 60	-	0 55	1 00	0 85	1 20	1 60	2 80	0 20	50 00	10 00	0 10	
-	2 35	0 45	-	-	0 90	1 00	-	2 00	3 00	0 15	60 00	20 00	0 05	
-	2 00	-	-	-	-	-	-	-	2 75	0 17	-	18 00	0 07	
-	1 80	0 45	-	-	-	0 75	-	-	-	-	45 00	-	-	
-	1 50	0 40	-	0 40	-	0 75	1 00	1 25	1 75	0 15	35 00	15 00	0 03	
-	-	0 40	-	-	-	-	-	-	-	-	35 00	12 00	0 03	
-	1 65	0 40	0 40	0 50	0 90	0 90	1 25	1 70	2 50	0 15	55 00	17 00	0 045	
7 25	1 00	-	0 40	0 55	0 90	0 85	1 15	1 50	2 30	0 15	50 00	11 00	0 035	
-	-	0 50	-	-	-	0 90	-	-	-	0 16	50 00	-	-	
7 15	2 00	0 50	0 50	0 55	-	1 05	1 50	2 00	-	-	60 00	18 00	0 05	
-	2 25	0 35	-	-	-	-	-	-	-	0 15	-	14 50	0 04	
-	1 50	0 40	-	-	-	0 75	-	1 30	2 00	0 15	-	17 00	0 04	
6 25	2 25	0 45	-	0 60	-	0 85	-	1 50	3 00	-	55 00	18 00	0 05	
7 50	2 00	0 50	0 50	0 60	-	-	1 60	-	-	0 20	50 00	See Bridge Items	-	
-	-	-	0 50	0 70	-	-	-	-	-	-	50 00	-	0 04	
-	1 85	0 45	0 45	0 55	0 90	1 00	-	-	-	0 16	50 00	15 00	0 05	
-	2 00	0 40	0 40	0 50	0 90	0 90	-	1 60	-	0 15	45 00	16 00	0 05	
-	2 00	0 05	-	0 35	-	0 60	-	1 50	-	0 15	30 00	-	-	
-	1 50	0 30	0 50	0 60	0 90	0 85	1 50	1 70	2 50	0 13	40 00	15 00	0 05	
-	2 00	-	0 40	0 50	1 50	-	-	-	3 50	-	40 00	12 00	0 04	
-	1 95	0 40	-	0 35	-	0 65	-	1 15	-	0 14	35 00	12 00	0 03	
-	1 60	0 45	-	0 55	-	-	-	-	-	0 15	-	16 00	0 06	
-	1 90	0 45	-	0 60	0 90	0 70	-	1 50	2 00	-	40 00	20 00	0 10	
6 10	2 50	0 40	-	0 40	-	0 80	-	-	-	0 14	35 00	10 20	0 029	
-	1 80	-	-	-	-	-	-	-	-	-	-	15 00	0 04	
-	1 50	-	-	-	-	-	-	-	-	0 14	-	-	-	
6 00	1 35	-	0 28	0 35	-	0 60	0 70	1 15	1 80	-	30 00	11 00	0 03	
-	1 00	0 30	0 40	0 50	-	0 70	-	-	3 00	-	50 00	15 00	0 03	
-	2 00	0 40	-	-	-	-	-	-	-	0 20	-	20 00	0 035	
7 17	1 60	0 40	0 45	0 55	1 00	0 90	1 30	1 75	3 00	0 16	60 00	19 00	0 035	
-	2 10	0 40	-	0 60	-	0 95	1 40	-	2 75	0 15	60 00	17 00	0 04	
-	2 20	0 45	-	0 60	-	0 80	1 00	1 50	-	0 18	50 00	-	-	
-	2 00	0 40	-	-	-	-	-	-	-	-	-	11 80	0 0296	
-	2 25	0 40	-	0 60	-	1 10	-	1 60	2 50	0 15	40 00	10 60	0 03	
-	3 00	0 40	-	0 50	-	0 80	-	-	3 00	0 14	40 00	15 00	0 04	

CONTRACT PRICES DEC. 1, 1932, TO NOV. 30, 1933

TOWN OR CITY	CONTRACTOR	EXCAVATION		Struct. Steel Lb.	Reinf. Steel For Struct. Lb.
		Bridge Cu. Yd.	Channel Cu. Yd.		
*Arlington-Belmont- Cambridge	B. Perini & Son	\$1 00	—	\$0 035	\$0 035
Ayer	Eng. Service & Const. Co.	1 00	—	—	0 05
†Barre	R. H. Newell Co.	2 00	\$0 90	0 045	0 06
*Brookline-Newton	Coleman Bros. Inc.	4 00	—	—	0 035
†Cohasset-Scituate	C. M. Callahan Inc.	1 00	2 00	—	0 03
Colrain	N. Beacco & Sons	1 00	0 50	0 025	0 03
*Conway-Deerfield	Kelleher Corp.	2 00	1 00	—	0 045
*E. Boston-Revere	A. Barruffaldi	1 50	—	—	0 0325
Easton	Arute Bros. Inc.	2 75	1 25	—	0 05
Gt. Barrington	Roy W. Wright	1 50	—	—	0 032
Hancock	Kelleher Corp.	50	50	—	0 04
Hopkinton-Southboro	N. F. Smith & Co.	1 00	0 40	—	0 02
		Lump Sum	—		
*Lynn-Revere	Crandall Eng. Co.	—	—	0 05	0 04
*Marshfield-Scituate	Lee Constr. Co.	1 00	—	0 0455	0 034
†Oxford-Webster	C. & R. Const. Co.	30	3 00	0 041	0 03
Pittsfield	Lee Constr. Co.	1 00	—	0 028	0 029
*Quincy-Weymouth	Blakeslee Rollins Corp.	5 00	—	0 07	0 04
Revere (Secs. 2 and 3)	C. & R. Const. Co.	20	—	0 038	0 03
Southampton	D. O'Connell's Sons	38	—	—	0 035
*Sterling-W. Boylston	M. Pandolph Co.	—	5 00	—	0 035
*Templeton	Lane Const. Co.	4 00	—	—	0 04
Williamsburg	M. Siano & Son	80	50	—	0 0296
Williamstown	J. F. Fitzgerald	1 50	1 00	—	0 03
†Yarmouth	S. W. Lawrence	2 00	—	—	0 04

File foot note (Lynn & Revere) price given is average price of different length piles.

*Indicates NRA Projects.

†(Barre) Later awarded to Town forces.

‡Federal Aid Emergency Construction Projects.

CONTRACT PRICES DEC. 1, 1932, TO NOV. 30, 1933

CONCRETE (Cu. Yd.)					Rip Rap cu. yd.	Bit. Conc. "D" ton	Bit. Water Pr'f'g S.Y.	Zinc Plates lb.	Lum- ber Sh't'g MFBM	WOOD PILES			Conc. Piles Lin. ft.	Test Piles Each
REINFORCED	PLAIN	RUBBLE		Y.P. (Per						Spr'ce Lin.	Oak Ft.)			
1:2:3½	1:2:4	1:2½:5	1:2:4	1:2½:5										
\$13 25	-	\$13 00	\$9 50	\$9 25	\$2 50	-	\$0 25	-	\$60 00	-	\$1 60	-	-	-
-	-	-	9 00	-	-	-	-	-	-	-	-	-	-	-
-	\$15 00	15 00	9 00	-	1 50	-	-	-	-	-	-	-	-	-
-	13 00	13 00	-	10 00	-	\$6 00	0 25	-	-	-	-	-	-	-
-	15 00	12 00	-	-	2 00	-	-	-	-	-	-	-	-	-
-	12 00	10 00	10 00	-	-	-	-	-	40 00	-	-	-	-	-
-	17 00	15 00	12 00	-	2 00	-	0 50	-	60 00	-	-	-	-	-
11 00	-	-	-	7 50	-	6 00	0 25	-	40 00	\$0 35	-	-	\$2 25	\$75 00
-	10 00	-	8 30	-	-	-	-	-	70 00	1 00	-	-	-	-
-	14 50	-	7 25	-	-	-	0 50	\$0 16	0 01	-	-	-	-	-
-	14 50	12 00	-	-	-	-	-	-	-	-	-	-	-	-
-	12 35	-	8 98	-	2 00	-	0 40	0 05	150 00	-	-	-	-	-
(Concrete Priced by Elevation)					3 00	-	0 25	-	-	-	0 34	{ See Pile Foot Note	-	50 00
14 00	-	-	-	-	-	6 00	0 25	0 15	-	0 70	{ Creosoted		-	-
-	12 00	10 00	6 80	-	2 00	-	-	-	10 00	-	-	-	-	-
-	10 20	-	8 00	-	-	-	-	0 16	0 01	-	-	-	-	-
15 00	-	10 00	20 00	-	-	-	-	-	-	-	\$0 33	\$0 47	-	50 00
-	11 00	10 00	6 00	-	1 50	4 00	-	-	10 00	-	-	-	-	-
-	20 00	15 50	-	-	2 25	-	-	0 17	-	-	-	-	4 50	100 00
-	19 00	20 00	18 00	-	-	-	0 50	-	100 00	-	-	-	-	-
-	17 00	16 00	13 00	-	-	-	0 50	-	50 00	-	-	-	-	-
-	11 80	-	9 40	-	1 35	8 36	0 25	0 15	-	-	-	-	-	-
-	10 60	12 00	10 32	-	2 00	10 00	0 30	-	65 00	-	-	0 70	-	75 00
-	15 00	15 00	-	-	2 00	pr ton	-	-	60 00	0 50	-	-	-	-

REGISTRY OF MOTOR VEHICLES

The statistics for the year 1933 continue to show slight decreases in some of the classes of applications handled, but there was a nominal increase in the registration applications.

The demands on the Registry for information from records and data from the files is increasing steadily. There was a salutary decrease in the number of insurance cancellations. The decrease in court abstracts received has continued again this year, with the revenue received from fines also taking another substantial drop.

The regular activities of the Registrar of Motor Vehicles continued during the year in matters of highway safety, including the special attention over Saturday and Sunday week ends and holiday periods. The co-operation of the various safety committees and organizations, police and other officials having to do with highway safety, was helpful.

The removal of the Registry from its quarters at Commonwealth Pier 5 to its offices in the new building of the Department of Public Works at 100 Nashua Street took place in July, 1933. Advantage was taken of the July 4th holiday and the move, which commenced at 12 o'clock noon, Saturday, July 1st, was completed on the 5th, when full service was rendered to the public at the new quarters, beginning at the usual hour, 9 o'clock. On Monday limited but adequate service to the public was rendered at Commonwealth Pier. The move was completed without loss or serious disarrangement of any of the millions of records, applications, folders, cards and data in the Registry files, to say nothing of the thousands of dollars of equipment, both in the way of office furniture and office machinery, none of which suffered serious damage in any respect. The Registry moved into and now occupies the first three floors of this new building and approximately one-half of the basement for storage of supplies, number plates, etc. Experience in the new quarters has indicated that the layout was well planned and efficient and will be adequate for many years to come.

A few of the outstanding figures for the year, together with a comparison with the previous year, follow:—

	1932	1933
Motor Vehicle certificates of registration issued	923,570	931,516
Compulsory insurance cancellation notices received	130,328	101,175
Licenses to operate issued	1,014,635	1,022,662
Examinations of applicants for licenses	81,036	74,988
Licenses and registrations revoked and suspended	73,511	78,431
Licenses revoked for driving under influence of liquor	4,824	4,274
Total number of applications handled	2,018,238	2,024,792
Gross receipts from fees	\$6,142,129.98	\$6,035,102.27

REGISTRATIONS OF PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES

The following registration figures show a 1.31% increase in passenger registrations, a 1.81% decrease in commercial registrations, and motor cycle registrations showed a decrease of approximately 38% over the previous year.

	1905	1915	1925	1929*	1932	1933
Passenger cars	4,889	90,580	663,858	905,636	809,358	819,987
Commercial vehicles	—	12,053	100,480	113,268	112,551	110,506
Motorcycles	553	9,520	10,333	6,168	1,661	1,023
Totals	5,442	112,153	774,671	1,025,072	923,570	931,516

* Peak year.

EXAMINATIONS FOR LICENSES

The system of examining prospective operators of motor vehicles was not changed in any respect during the year 1933, the appointment system being continued and the examination consisting of the usual demonstration on the highways, a reading test, an eye test, and a test of the applicant as to his knowledge of the motor vehicle law. The number of persons examined has continued to decrease at the fifty-five examining points with the following results:—

	1932	1933
Operators passed	68,328	66,547
Operators unfit	8,735	6,966
Restriction removal, passed	3,873	2,371
Restriction removal, unfit	444	261
"Competency" passed	560	330
"Competency" unfit	29	21
Total examinations	81,969	76,496

BRANCH OFFICES

The branch offices of the Registry of Motor Vehicles are able to render practically the same service to the public that is rendered at the main office at Boston, except as to information from the records. Each branch office serves as a headquarters for the district in which it is located, both as to distribution of number plates and licenses, and law enforcement.

The following table gives approximate figures showing the distribution of applications received at the branch offices and at the central office at Boston:—

APPROXIMATE DISTRIBUTION OF REGISTRATIONS, LICENSES, ETC.

	Regis- trations	First Licenses	License Renewals	Miscel- laneous	Totals
Boston:					
Counter	205,000 [*]	—	167,000	76,000	448,000
Mail	151,000	—	410,000	11,000	572,000
Examination	—	20,000	—	4,000	24,000
Pittsfield	22,000	2,000	19,000	5,500	48,500
Springfield	55,000	6,000	54,000	15,000	130,000
Greenfield	11,000	1,000	9,000	3,000	24,000
Northampton	12,000	1,000	9,000	3,500	25,500
Worcester	51,000	6,000	46,000	15,000	118,000
Fitchburg	18,000	1,500	15,000	5,000	40,500
Frammingham	23,000	2,000	13,000	6,000	43,000
Lawrence	31,000	4,000	29,000	8,000	72,000
Lowell	25,000	3,000	22,000	6,000	56,000
Fall River	21,000	3,500	21,000	6,500	52,000
New Bedford	21,000	2,000	25,000	7,000	55,000
Lynn	56,000	6,500	47,000	16,000	125,500
Quincy	32,000	5,500	33,000	9,000	79,500
Brockton	38,000	3,000	32,000	12,000	85,000
Hyannis	9,000	1,500	7,000	2,500	20,000
Nantucket ¹	1,500	—	—	—	1,500
Oak Bluffs ¹	2,500	—	—	—	2,500
Totals	785,000 [*]	68,500	958,000	211,000 ²	2,022,500

During the year the branch offices at Pittsfield, Fall River and Lawrence, upon the expiration of their leases, were moved,—the two former to new and better locations and quarters, while the latter transferred to

¹ Licenses and miscellaneous applications included in counter figures.

² This figure includes approximately 140,000 number plate reissues.

³ Does not include reissues (see Miscellaneous).

new quarters in the same building. In each instance, the contract for the new lease provided for a reduced rental. Negotiations for the removal of the Brockton office are under way and when this change is effected it is believed that the locations and quarters of all the branches will be well adapted to the requirements of the public.

COMPULSORY MOTOR VEHICLE LIABILITY INSURANCE

The following figures show the volume of papers received and notices mailed in connection with the carrying out of the law regarding compulsory motor vehicle liability insurance:

	1932	1933
Causes for Cancellation of Policies:		
For non-payment of premiums	112,994	70,564
For other reasons	17,334	30,611
Total	130,328	101,175
Origin of requests for Cancellation of Policies:		
Insurance companies	93,000	97,877
Finance companies	37,328	3,298
	130,328	101,175
Disposition of applications for cancellations:		
Replacement certificates, adjusting cancellations		8,194
Reinstatements, adjusting cancellations		45,000
Sets of plates returned before effective date of cancellation		13,000
Revocations		34,981
Total		101,175
Return of Plates:		
Returned promptly after revocation		22,048
By Police		5,955
By Inspectors of Registry		3,173
Not returned		3,805
Total revocations		34,981

The decrease in total number of cancellation notices received was probably due to the fact that the finance companies in exercising their powers of attorney caused more general current payments of premiums. Under ideal conditions the only cancellations which should be necessary for this Department to handle should be the so-called "For Cause" cancellations.

PROPERTY DAMAGE

Under the provisions of Section 22A of Chapter 90, General Laws, which became effective September, 1932, the Registrar may, upon receipt of evidence satisfactory to him, suspend the license of any operator who has failed to satisfy a judgment rendered against him after sixty days in any case in which such operator is the defendant in an action brought to recover damages for injuries to property arising out of the use, operation or maintenance on the ways of the Commonwealth of a motor vehicle or trailer.

The following figures indicate the number of cases in which successful plaintiffs availed themselves of the additional facilities provided in the new law for recovering damages and the action taken thereon.

Complaints received	344
Releases received, no action being necessary	81
Licenses or rights to operate suspended	263
Licenses or right to operate reinstated after suspension	59

AIRCRAFT

The statistics of the Aviation Section show a decrease in the number of licensed pilots and airplanes.

Although the total number of pilots flying in the State is less, it is very encouraging to note that there has been a greater decrease in the percentage of accidents, which, no doubt, is partly the result of the two new regulations, — one, the raising of the age limit to obtain a pilot's license to 18 years and the other, the prohibiting from carrying passengers of pilots who have less than 50 hours of solo flying to their credit.

A very strict periodic supervision has been made of the operations at all airports. The active flying fields have been resurveyed by our engineers who have brought the blue prints up to date. A program for air-marking of towns which is well under way is meeting with fair success. Co-operation with the Federal Government in aviation activities has been continued.

The following figures summarize the work of the Aviation Section.

	1932	1933	
Pilot's licenses issued	17	21	
Airplanes registered	37	27	
Duplicates issued	4	4	
Fees received	\$555	\$492	
Pilots' permits issued	476	336	
Aircraft permits issued	323	231	
Pilots examined by flight tests	11	10	
Airplanes inspected	470	269	
Suspensions of licenses and rights to fly	34	27	
Airplanes grounded	149	71	
Reinstatements of licenses, rights and groundings	119	66	
Court prosecutions	5	2	
Rulings promulgated	1	2	
Airports approved	1	1	
Airports disapproved	2	1	
Surveys of fields	15	84	
Investigations made by aircraft inspectors	821	896	
Airplane accidents	86	53	
	1932	1933	
Fatals	8	6	
Non fatals	21	9	
No injury	57	38	
Persons killed	11	10	
Persons injured	38	15	
Ground accidents		13	5
	1932	1933	
Non fatals	3	1	
No injury	10	4	
Persons injured	3	1	

INSPECTION OF MOTOR VEHICLE EQUIPMENT

The fourth periodic inspection of the safety equipment of all motor vehicles registered in the commonwealth was held during the year. The work was carried on by a permanent organization of Official Inspection Stations designated by the Registrar. Most of these stations have been functioning for a period of four years and performed the work honestly and efficiently.

The results of the inspections confirmed the conclusions reached by former experience: that one inspection per year cannot be expected to secure the desired results. When business and other conditions warrant, it is to be hoped that two inspections per year can be conducted.

During the year approximately 790,000 cars were inspected. The result may be summarized as follows:

Total number of cars inspected	790,000
Total O. K. without repair or adjustment	316,000—40%
Total requiring replacement or adjustment	474,000—60%

Repairs or adjustments on the 474,000 vehicles requiring correction of defects in equipment were as follows:

Brakes	213,300—27%
Lights	410,000—52%
Horn	13,430— 2%
Muffler	7,110— 1%
Steering Gear	13,200— 2%
Windshield Cleaner	15,000— 2%
Number Plates	4,187—0.5%

School Bus Inspections

All the school buses operated in Massachusetts under contracts with cities or towns, or owned by cities or towns, were examined by inspectors of this department five times during the year as required by Chapter 271 of the Acts of 1932. These inspections were held during the first weeks of January, March, May, September and November. In each case, about eight hundred vehicles were inspected at 70 designated examining points. Because of the provisions of the law, complete compliance with its equipment requirements cannot be insisted upon until the termination of all transportation contracts existing on August 26, 1932. In general, however, school bus equipment has improved considerably since the first inspection held in October 1932, and many new buses have been put in operation to take the place of vehicles which failed to meet the requirements of the Act.

Brakes, Lights, and Overloads

Eighteen men were regularly assigned to equipment work. Besides their duties in connection with the periodic inspections of motor vehicles and school buses, these men did considerable road work in enforcing equipment requirements. 1,732 vehicles were reported for defective brakes; 22,299 for defective lights. 1,092 registrations were suspended or revoked because of dangerously defective equipment. In addition 339 owners were sent warning notices because of overloading and 15 registrations were revoked for this cause. Equipment inspectors also reported 2,553 cases of improper operation for action by the Registrar and 1,380 cases of violation of laws and regulations regarding equipment, dimensions of vehicles, etc.

Headlamps and Rear Lamps

The Registrar approved four new headlamps and granted several extensions of approval during the year. Three of the new approvals were of the three beam type having a "clear road" beam, a "meeting" beam and a "city" beam,—each of the three beams being accomplished by different combinations of use of the two bulbs in the pair of headlamps. The fourth headlamp approved has six beams and is magnetically operated; but that does not necessarily indicate a tendency towards greater complications. In fact, such is not desirable, the simple systems being more satisfactory. Seven new tail lamps were approved during the year.

MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS

Deaths caused by motor vehicles in 1933 numbered 769, an increase of one or 0.1 per cent as compared with the record of the previous year. The record of classified fatalities, injuries and collisions in the years 1932 and 1933 is as follows:—

Motor Vehicle Accidents to Persons

	Persons Killed		Persons Injured	
	1932	1933	1932	1933
Pedestrians by autos	426	425	15,793	15,180
Pedestrians by motor cycles	2	0	26	26
Pedestrians near street cars	11	8	24	35
Occupants of autos	277	277	30,186	31,325
Occupants of autos at R. R. crossings	16	17	24	18
Occupants of motor cycles	9	9	240	184
Bicycle Riders	12	17	848	920
Occupants horse-drawn vehicles	5	6	279	193
Coasters on sleds	8	6	148	235
Coasters on wheels	2	4	90	133
Totals	768	769	47,658	48,249
	Children Killed		Children Injured	
	1932	1933	1932	1933
Boys	112	115	7,441	7,062
Girls	34	39	4,136	3,599
Totals	146	154	11,577	10,661

Number of Collisions

	1932	1933
Collision with pedestrian	15,672	14,998
Collision with automobile	20,168	20,027
Collision with horse-drawn vehicle	300	256
Collision with railroad train	23	15
Collision with street car	297	339
Collision with fixed object	1,887	2,268
Collision with bicycle	873	927
Non-Collision (overturn)	714	726
Collision with motor cycle	303	238
Collision with sled	120	205
Collision with animal	101	86
Coaster on wheels	82	131
Totals	40,640	40,216
In the daytime	25,394	24,561
After dark	15,246	15,655
Totals	40,640	40,216

ACCIDENT REPORT LETTERS

As provided by section 26, chapter 90, General Laws every operator of a motor vehicle in any manner involved in an accident in which any person is killed or injured is required to report in writing to the Registrar. The number of these formal accident reports received from operators in 1933 was 44,869 as compared with 48,864 received in 1932. Under the requirements of section 29, chapter 90, General Laws, 18,991 similar reports of accidents were received from Police Departments throughout the State in 1933 as against 19,859 received in 1932. In addition, in connection with this reporting of accidents by operators during the fiscal year 1932 there were received 14,769 letters and complaints reporting faulty operating. During the year 1933, these letters and complaints numbered 12,318.

COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, LICENSES, DEATHS,
INJURIES, REVOCATIONS AND SUSPENSIONS

Year	Automobiles Registered	Motor-Cycles Registered	Total Regis- trations	Number of Persons Killed	Number of Persons Injured	Licenses Issued	Total Sus- pensions and Revo- cations	For Operat- ing Under Influence of Liquor
1910	31,360	3,358	34,718	77	963	41,259	283	22
1911	38,907	3,658	42,565	110	1,248	51,950	360	14
1912	50,132	5,034	55,166	142	1,962	66,645	546	56
1913	62,660	7,127	69,787	188	2,923	81,034	608	87
1914	77,246	8,161	85,407	229	4,010	99,532	858	131
1915	102,633	9,520	112,153	294	6,197	133,935	1,153	202
1916	136,809	10,713	147,522	315	9,131	171,596	1,396	320
1917	174,274	11,065	185,339	438	7,282	214,229	1,831	485
1918	193,497	12,862	206,359	499	8,598	235,140	2,343	553
1919	247,183	13,698	260,881	582	16,287	297,968	2,156	554
1920	304,538	15,142	319,680	481	21,182	261,539	2,944	888
1921	360,731	12,058	372,790	544	11,487	380,519	4,899	1,508
1922	449,838	11,675	461,513	522	15,277	444,173	8,369	2,460
1923	566,150	11,733	577,883	578	16,217	536,819	11,613	3,333
1924	672,315	10,778	683,093	709	19,579	620,439	14,154	4,395
1925	764,338	10,333	774,671	755	25,736	695,378	16,249	4,654
1926	826,224	9,215	835,439	705	25,351	763,951	18,705	4,863
1927	819,703	7,245	826,948	693	31,721	814,094	31,252	4,983
1928	883,595	6,656	890,251	715	42,201	870,160	40,814	5,071
1929	1,018,904	6,168	1,025,072	777	46,111	944,338	53,133	5,381
1930	1,008,476	4,642	1,013,118	795	44,279	982,795	52,954	5,052
1931	1,006,808	3,068	1,009,876	793	48,837	1,024,304	63,841	5,535
1932	921,909	1,661	923,570	768	47,658	1,014,635	73,511	4,824
1933	930,493	1,023	931,516	769	48,249	1,022,662	78,431	4,274

INVESTIGATIONS AND PROSECUTIONS BY INSPECTORS

Investigations were made under the direction of the Chief Inspector relative to fatal and non-fatal accidents, violations of the laws concerning brakes and headlights, inspection of garages, miscellaneous complaints, and the prosecution of motorists in court. The table below shows the wide range of these activities of the inspectors, and reveals an increase in the total number of cases handled.

Classification of Reports

	1932	1933
Accidents, fatal	748	729
Accidents, non-fatal	5,816	5,457
General Reputation	5,943	6,933
Miscellaneous	11,764	12,437
Totals	24,271	25,556
Complaints filed	14,976	12,537
Garages	5,471	8,964
Headlights	21,036	24,031
Prosecutions	752	655
Amount of fines	\$26,175.	\$21,263.

REVOCATIONS AND SUSPENSIONS

	1932	1933
Licenses suspended	15,315	10,551
Licenses revoked	3,466	2,996
Rights suspended	4,651	4,402
Certificates suspended	0	1,127
Certificates revoked	48,417	57,802
Certificates and licenses suspended	22	17
Certificates and licenses revoked	1,435	1,359
Certificates revoked and rights suspended	123	107
Rights in Massachusetts suspended	82	70
Totals	73,511	78,431
Resulting from investigations	17,411	12,577
Resulting from Court convictions	8,196	7,603
Resulting from Police complaints	1,411	1,401
Resulting from Judges' complaints	21	25

P. D. 54		81
Resulting from State Police complaints . . .	210	104
Resulting from Insurance cancellations . . .	46,262	56,721
Totals	73,511	78,431

Character of Offenses

Reckless and endangering	1,845	1,572
Liquor convictions	3,899	3,601
Going away after accidents	335	332
Without authority	831	726
Racing	0	2
Improper person	5,562	5,059
Improper person, liquor	925	673
Two overspeeds	34	58
Three overspeeds	4	9
Improper operation	9,436	6,874
Insurance cancellations	46,262	56,721
Insurance convictions	375	387
Improper equipment, miscellaneous	138	208
Improper equipment, lights	166	334
Improper equipment, brakes	415	369
Failure to have stickers	2,157	181
Fatal accidents	728	734
Other offenses	399	362
Property Damage cases	0	229
Totals	73,511	78,431

Formal hearings	7,188	7,103
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Court recommendations adopted:—

Reckless and endangering	33	30
Going away after accidents	6	5
Without authority	2	0
Allowing improper person to operate	1	0
Totals	42	35

Persons whose licenses were suspended or revoked and who had to pass examination in order to have them returned	3,805	3,725
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ANALYSIS OF COURT ABSTRACTS RECEIVED

	1932	1933
Number of courts forwarding abstracts	95	95
Total abstracts received	51,329	46,381
Number of abstracts recording convictions	36,149	31,791

Offenses

(Analysis of convictions, not including appeals)

Overspeeding	11,366	9,453
Reckless	14	10
Operating under influence of liquor	3,486	3,334
Using auto without authority	1,194	925
Endangering lives	2,253	1,642
Not stopping after causing injury	591	571
Without license	2,985	2,600
Without registration certificate	802	704
Unregistered vehicle	395	386
Improper display or no register number	178	155
Refusing to stop on signal	298	431

82		P. D. 54
Unlighted lamps	500	444
Not signalling	0	1
Operating within 8 feet of street car	112	115
Violation of Metropolitan Park Rules	442	169
Operating after suspension or revocation of license	558	559
Larceny	115	129
Manslaughter	1	1
Miscellaneous	2,007	1,512
Lenses not approved	0	1
No reflector	0	7
Racing	1	4
Operating after registration certificate revoked	22	11
No rear light	36	45
Not displaying lights	0	31
Passing red light	130	522
Improper lights	356	212
Brakes not as required by law	237	226
Violation of Insurance Law	416	447
Not slowing down approaching pedestrian	60	19
Not slowing down at intersecting way	5,191	5,015
Violation of law of road	2,312	1,986
Perjury—Making false statements on license application, falsely impersonating or conspiring to obtain a license	17	18
Loaning a license to another	8	13
Allowing intoxicated person to operate	5	6
Attempted larceny	61	34
Allowing improper person to operate	0	53
Totals	36,149	31,791

USED CAR SECTION (Motor Vehicle Identification)

The following is a resume of the work accomplished by the Used Car Section which indexes, under engine numbers, all motor vehicles registered and reported stolen, and checks reports of sales of used cars against the stolen-vehicle records. Dealers' and repairmen's plates and registration certificates are issued by this section.

The work of the section is summarized in the following tables:—

	<i>Dealers</i>	1932	1933
Total number of first class dealers reporting		1,240	1,135
Total number of second and third class dealers reporting		468	519
Total number making reports to this office		1,708	1,654
	<i>Reports</i>		
Approximate number of notices of intended sales received daily		243	280
Approximate number of dealers' reports received daily		823	878
	<i>Motor Vehicles Stolen</i>		
Number stolen in Boston		4,901	5,108
Number stolen in Massachusetts (including Boston)		6,211	9,743
Number reported stolen from various sources throughout the country, including Massachusetts		23,902	25,505
Number of motor Vehicles recovered through information furnished by this office		423	368

Engine and Serial Numbers

Engine numbers assigned to cars	12	15
Certificates issued authorizing the replacement of engine numbers	456	370
Certificates issued authorizing the replacement of serial numbers	648	470
Certificates issued authorizing the replacement of both engine and serial numbers	19	15
Total number of authorization certificates issued	1,123	855

EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS

Two meetings of the Motor Vehicle Administrators were held in 1933, one, the Eastern Conference of Motor Vehicle Administrators, in Detroit, Michigan, on June 27, 28 and 29, and the other in Chicago, Illinois, at which time no representative of this Department attended either meeting on account of economic reasons. The American Conference of Motor Vehicle Administrators was organized at the Chicago Conference on September 29 and 30, and the Eastern Conference is now a division of it.

ANALYSIS OF RECEIPTS

The fees received for the year 1933, together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table:

Certificates of Registration:

Passenger cars including taxicabs)	816,302	\$2,428,075 95
Commercial cars	110,506	1,188,656 10
Buses	3,685	89,089 65
Trailers	525	30,741 50
Motor cycles	1,023	1,394 00
Manufacturers or Dealers (including repairers)	2,753	8,259 00
Manufacturers or Dealers additional cars (including repairers)	17,997	53,991 00
Licenses to operate:		
Original licenses	66,952 at \$2.00	133,894 00
Renewal licenses	955,710 at 2.00	1,991,223 50
Examinations	60,650 at 2.00	\$121,300
Re-examinations	14,338 at 1.00	14,338
Total examinations	74,988	135,638.00
Copies of certificates and licenses furnished	32,615 at \$1.00	32,615 00
Duplicate number plates furnished	8,685 at 1.00	8,685 00
Lens approval applications	3 at 50.00	150 00
Miscellaneous receipts, process fees, etc.		12,689 57
Total amount of fees		\$6,035,102 27
Motor Vehicle fees rebated (deducted)		61,866 57
Net fees		\$5,973,235 70
Court fines received by the Treasurer and Receiver-General		333,241 32
Total receipts (not including gasoline tax*) credited Highway Fund account, 1933		\$6,306,477 02

*Receipts from gasoline tax are credited to the Highway Fund but are collected through agencies other than the Registry.

EXPENSES OF THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles for the year 1933 was \$1,434,382.44, which was 24% of the net fees collected. This cost, deducted from the receipts for the year, left the sum of \$4,872,094.58 available for legislative appropriation for highway work.

ANALYSIS OF EXPENDITURES FOR THE FISCAL YEAR 1933

Payrolls

Personal Services:

Regular payroll	\$899,054 11
Overtime payroll	7,845 75

 \$906,899 86
Expenses

Supplies:

Books, maps, etc.	\$820 99
Typewriter supplies	1,458 56
Adding machine repairs and supplies	109 41
Other supplies	2,607 25
Stationery	20,844 12
Typewriter repairs	118 66
Other repairs	652 11

 \$26,611 10

Equipment and Furniture:

Typewriter machines	\$3,233 55
Other machines	2,293 65
Desks	579 97
Bookcases, tables, etc.	1,146 49
Filing cabinets	13,529 82
Chairs	533 29
Dictograph	347 57
Branches—Safe	209 10
Headlight and Brake Testing Expense	19 00
Uniforms	4,609.05

 \$26,501 49

Traveling Expenses:

Officials	\$2,088.51
Employees	22,796 43
Aviation	2,763 97
Automobiles (owned by employees)	72,886 52
Automobiles (owned by State):	
Maintenance of 11 automobiles	3,014 38
Exchange of 3 automobiles	1,103 19
Purchase of 1 automobile	483 87

 \$105,136 87

Other Services and Expenses:

Expressage	2,973 09
Postage	92,019 16
Printing:	
Other reports	38 27
Other printing	8,066 00
Telephone	7,854 87
Premium on Bonds of Employees	391 21
Rent	11,500 00
Cleaning and Janitor Services	929 90
Rat Extermination	105 34
Labor	326 70
Number Plates	178,729 10
Direct Mail Lists	9,500 00
Sundries	238 86

Towels and Soap	578 39	
Water and Ice	581 60	
Expenses incurred by moving to new building:		
New Equipment	11,567 02	
Labor	5,993 45	
Branch Offices:		
Rent, Telephone, Lighting, Heating	27,488 27	
Labor and Services	7,506 11	
Supplies and Express	2,404 59	
		\$368,791 93
<i>Publicity for Safety Work</i>		
Labels	\$441 19	
		\$441 19
		\$1,434,382 44
<i>Summary</i>		
Payrolls		\$906,899 86
Expenses		527,041 39
Publicity for Safety Work		441 19
		\$1,434,382 44

RELATING TO WATERWAYS AND PUBLIC LANDS
BOSTON HARBOR

The Commonwealth Flats at South Boston

Commonwealth Pier 5

Work necessary to maintain the pier in condition for effective operation has been carried on as usual during the year. Repairs have been made to gangways, to fender logs and fittings, to roofing, flashing, downspouts and sash, to elevators and elevator machinery, to the sprinkler system and to the heating plant.

On June 6, 1933, a contract was made with A. A. Hersey and Son Company for furnishing, driving, fitting and securing new fender piles and new foundation piles, rebolting piles and belay posts, furnishing and securing new bracing, securing existing loose bracing, and other necessary timber work in the pile platform of the pier. This work is now in progress.

Early in the year requests were made for the cutting of an additional door on the second floor at the outer end of the pier to facilitate the embarking and disembarking of passengers from steamships using the outer berths when the inner berth is occupied. This door was provided for in a letter contract made June 20, with J. Edward Ogden Company for cutting out siding and framing a new door opening, removing a two section door and erecting it in the new opening, and for furnishing and installing a new three-section door in place of the two-section one, on the east side of the second floor of the pier at a contract price of \$1,818. This work was completed Oct. 5, 1933.

After the movable gangway, built last year at the outer end of the pier, had been in operation for some months, it became evident that the widening of the lower run would allow freer movement of the short gangway extending from the movable gangway to the ship docking at the pier. For this widening and for certain changes in the open observatory where the movable gangway meets the second floor of the pier, the two following contracts were made.

On Sept. 13, 1933, a contract was made with the Waghorne-Brown Company to remove a portion of the parapet wall on the observation platform at the outer end of the pier, to provide an opening 30 feet 6 inches wide, and to furnish and to erect a steel fence to close the opening, for the lump sum of \$322. The work was completed Nov. 10, 1933.

A contract was made on Sept. 13, 1933, with the Waghorne-Brown Company to make alterations to the movable gangway at the pier, by changing the width of the lower ramp from 4 feet to 8 feet, and making alterations in the upper ramp by the construction of new crickets to adjust the gangway to alterations in the parapet coping. The contract price for this work is the lump sum of \$1,044. The work was completed Nov. 10, 1933.

On Sept. 20, 1933, a contract was made with Louis P. Steensen for cleaning and painting all exterior structural steel work on the sides and outer end of the pier for the lump sum of \$1,720. Later this contract was extended to include painting the rooms and corridors in the head house. The work is now in progress.

A letter contract was made with George T. McLauthlin on Nov. 21, 1933, for installing sixteen elevator gates on four elevators at the pier for the sum of \$2,400.

During the summer the offices at the pier occupied by the engineers of the Department and by the registry of motor vehicles were vacated for space in the Public Works Building at 100 Nashua Street. This change releases practically the entire pier for shipping, cargo and passenger use. Some office partitions have been removed and openings made in others by the operating force so that cargo may be more easily transferred into certain parts of the area vacated.

Captains of the large passenger liners using the pier have expressed considerable concern lest a combination of a strong westerly wind with an ebb tide should cause a vessel heading for the east berth to strike or ground upon the bank in front of the Fish Pier. To reduce this hazard a contract was made on Sept. 26, 1933, with the Bay State Dredging and Contracting Company for dredging to a depth of 35 feet at the mean low water, an area to widen the approach to the east berth of the pier, at the following contract prices: for dredging and disposing of the dredged material, 43 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This work is now in progress.

A summary of freight and passengers using the pier in 1933 follows:

FREIGHT AND PASSENGERS AT COMMONWEALTH PIER NO. 5 DURING
FISCAL YEAR ENDING NOVEMBER 30, 1933

Name of SS. Line	No. of Ships	In Fgt. RR. (Tons)	Trucks (Tons)	Total Tonnage	Out Fgt. RR. (Tons)	Trucks (Tons)	Total Ton- nage	Passengers		Total
								In	Out	
Am. Haw. SS. Co. .	102	18,570	105,386	123,956	7,487	30,847	38,334	-	-	-
Luckenbach SS Co. Inc.	71	8,040	53,114	61,154	3,797	14,112	17,909	-	-	-
Norton, Lilly & Co. .	64	1,721	10,985	12,706	523	4,129	4,652	-	-	-
White Star Line .	41	962	5,564	6,526	1,556	1,237	2,793	2,844	3,007	5,851
Canadian Nat. SS. Co..	77	-	-	-	-	-	-	2,068	1,888	3,956
Italian Line . .	16	-	34	34	-	80	80	-	2,167	2,167
Hamburg-Amer. Line .	4	-	-	-	-	-	-	125	209	334
Byron SS. Co. . .	9	-	-	-	-	-	-	-	759	759
Norton Lilly & Co. (Foreign) . .	1	243	10	253	-	-	-	18	-	18
SUMMARIES .	385	29,536	175,093	204,629	13,363	50,405	63,768	5,055	8,030	13,085

DEVELOPMENT OF LAND SOUTH OF SUMMER STREET

During the year the seven sections in Storehouse No. 1 on E Street have been occupied by the Wiggin Terminals, Inc. Minor repairs have been made to the warehouse as they became necessary.

In accordance with the terms of the agreements of May 10 and June 7, 1932, the Department relinquished early in the year sections M and N of the D Street Storehouse, leaving the entire building to the Economy Grocery Stores Corporation.

A few months later the Corporation began negotiations for the purchase of a parcel of land containing about 36,275 square feet off D Street and southerly of the property of George C. Corcoran. An agreement under date of Oct. 3, 1933, was approved by the Governor and Council on Oct. 18, for the sale of this land to the Economy Grocery Stores Corporation. The instrument provides that the land becomes the property of the Corporation upon the completion of the payment of \$21,764.99 in nine annual payments, including interest each year upon the unpaid balance.

Under date of August 29, 1933, a lease was granted to the United States of an area about 800 feet by 600 feet at Marine Park, South Boston, and of a right of way from Farragut Road, to allow the establishment of a "T S" radio range station. This lease carries an option of annual renewals to June 30, 1943.

GRASSELLI WHARF

This wharf has been used during the year by various owners for tying up motor boats and other craft. A part of the land and pier has been occupied by a gasoline filling station. The entire property is available for lease.

THE COMMONWEALTH FLATS AT EAST BOSTON

Aircraft Landing Field — Boston Airport

The greater part of the area reclaimed by the Commonwealth at East Boston continues to be occupied by the city of Boston as an airport. On Aug. 10, 1928, under authority of Chapter 64 of the Resolves of that year, the Department leased to the City approximately 5,717,000 square feet of land for this purpose. The use of an additional area of 4,210,760 square feet was authorized by a lease executed July 14, 1930, in accordance with the provisions of Chapter 53 of the Resolves of 1930. The matter of the lease to the city of two additional parcels, one northeasterly of the areas leased in 1928 and 1930, the other southeasterly of the parcel leased in 1930, is now pending.

The use of these areas by the City is subject to certain rights of occupancy and use granted by lease of June 30, 1922, to the War Department, with an option of annual renewals extended to June 30, 1937, by a supplementary agreement of Dec. 27, 1926.

RECLAMATION OF FLATS

The work of dredging and filling at East Boston under contracts made by the Department for the purpose of reclaiming flats has been in abeyance since 1923. Between that year and Nov. 30, 1933, approximately 2,681,000 cubic yards of material dredged from various locations in the harbor have been deposited in the receiving basin. In the year ending Nov. 30, 1933, approximately 83,900 cubic yards were dumped upon flats northerly of Governor's Island. The Commonwealth has reclaimed about 150 acres of land at East Boston.

Under licenses granted in 1930 and 1931, for the building of bulkheads, dredging and filling, the City of Boston has reclaimed for the extension of the Airport an area of approximately 140 acres.

COMMONWEALTH PIER 1, EAST BOSTON

During the greater part of the year the east and west docks of this pier have been used by the Eastern Steamship Lines, Inc., for tying up steamers when not in service.

Under date of Nov. 6, 1933, a lease of this pier was executed to John G. Hall and Company, Inc., for a period beginning Nov. 1, 1933 and ending October 31, 1934, with an option of renewal for one year at the same terms. The lease provides for a rental of \$6,000 yearly plus accruments on all cargo in or out of the pier and on all cargo interchanged between vessel and pier or lighter or other vessel, as follows: annually ten cents per ton of 2,240 pounds up to 15,000 tons; five cents per ton of 2,240 pounds from 15,000 to 40,000 tons; and two and one-half cents per ton of 2,240 pounds on all cargo over 40,000 tons.

The instrument provides that the pier shall be used exclusively for waterborne commerce and that no storage warehouse business shall be carried on upon the premises.

On Nov. 28, 1933, a contract was made with Waghorne-Brown Company for the construction and erection of sixteen sliding steel doors to replace wooden (cargo) doors at this pier, at a contract price of \$143.37 for each door furnished and erected.

BOSTON HARBOR — REMOVAL OF ABANDONED HULKS OR WRECKS

By Chapter 89 of the Acts of 1933, an appropriation of \$50,000 was made for removing abandoned hulks or wrecks lying along the waterfront of Boston Harbor. An additional appropriation of \$25,000 for this purpose was made by Chapter 371 of the Acts of 1933. This work has been carried on during the year under the following contracts.

On Apr. 4, 1933, a contract was made with the Bay State Dredging and Contracting Company for removing several hulks from Boston Harbor, in areas near Chelsea Bridge, off the foot of Hanover Street and westerly of the steamboat wharf in Winthrop Harbor, at a contract price of the lump sum of \$2,700. This work was completed Apr. 17, 1933.

A contract was made on Apr. 18, 1933, with Roy B. Rendle and Company, Inc., for the removal of several hulks with their debris and of old piles from property of the Boston Port Development Company at Condor Street, East Boston, at a lump sum price of \$3,800 for removing and disposing of hulks, and of \$600 for pulling and disposing of piles. This work was completed June 19, 1933.

On Apr. 25, 1933, a contract was made with The Rendle Corporation to remove several hulks from Chelsea Creek on property of the Boston Port Development Company adjacent to Putnam and Condor Streets, East Boston, at a contract price of \$1,800 for removal and disposal of the hulks. Under date of June 7, 1933, the contractor was directed to remove for the sum of \$400 all additional hulks or wrecks encountered in the course of the work. The removal of hulks under this contract was completed July 12, 1933.

A contract was made on Aug. 1, 1933, with John Forward for the removal of hulks or wrecks from Chelsea Creek adjacent to Condor Street near Glendon Street, East Boston. The contract prices for this work are: for the removal and disposal of the steel hulk formerly known as the "Yankton", \$500; for the removal and disposal of all hulks or wrecks or parts of hulks or wrecks, except the steel hulk "Yankton", the lump sum of \$2,900. Work under this contract is not yet completed.

On Aug. 29, 1933, a contract was made with the M & R Construction Company for the removal of several wrecks and debris from Chelsea Creek on property of the Boston Lockport Block Company, East Boston, and the Quincy Oil Company, Chelsea, and from the site of the old Chelsea Ferry in Boston Harbor on property of Etta C. Lowell. The

contract price for this work is the lump sum of \$1,495. This work is now in progress.

In order to give, in accordance with the intent of Chapter 89 of the Acts of 1933, as much relief as possible to unemployment, material from the wrecks removed was placed on shore at various locations along the water front. The breaking up of this material provided work for additional labor for about 15,800 man days.

ANCHORAGE BASIN

On June 13, 1933, a contract was made with the M. and R. Construction Company to furnish, drive and secure piles to rebuild Dolphin "A" on the northerly edge of the anchorage basin at Bird Island Flats, for the lump sum of \$175. This work was completed in July 26, 1933.

BOSTON INNER HARBOR

In January request was made for further dredging at the mouth of Fort Point Channel between Pier 1 of the New York, New Haven and Hartford Railroad Company and Rowe's Wharf and Fosters Wharf, in order to provide more convenient access for steamers using the piers on Atlantic Avenue.

A contract was made on Sept. 26, 1933, with the Bay State Dredging and Contracting Company to dredge to a depth of 25 feet at mean low water an area off the entrance to Fort Point Channel at the following contract prices: for dredging and disposing of dredged material, 37 cents per cubic yard, scow measurement; for removing and disposing of all boulders, \$20 for each cubic yard. This work is now in progress.

MYSTIC RIVER DREDGING

In August of this year a request was received from the Merrimac Chemical Company for dredging in Mystic River just above Malden Bridge to prevent the grounding of vessels turning from the main channel into the channel leading to property of the Company.

On Oct. 10, 1933, a contract was made with the Bay State Dredging and Contracting Company to dredge to a depth of 16 feet at mean low water an area approximately 750 feet long and 90 feet wide in Mystic River above Malden Bridge, at the following contract prices: for dredging and disposing of the dredged material 41 cents for each cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This work is now in progress.

PLEASANT PARK, WINTHROP

On Jan. 25, 1933, hearing was held upon the petition of the Pleasant Park Yacht Club for dredging a channel in Belle Isle Inlet from Nun Buoy No. 6 to the basin and channel leading to the Pleasant Park Yacht Club and to the adjacent boat yard.

A contract was made on Nov. 28, 1933, with the Bay State Dredging and Contracting Company for dredging a channel at Pleasant Park about 60 feet wide and 3,800 feet long to a depth of 6 feet at mean low water at the following contract prices: for dredging and disposing of dredged material 38 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work has not yet begun.

SOUTH BAY

On May 2, 1933, a lease was given to the Downes Lumber Company to continue for a term of five years from May 15, 1933, its occupancy of certain wharf property of the Commonwealth at South Bay, Roxbury, at a rental of \$2,400 per year.

STONY BEACH, HULL

By Chapter 330 of the Acts of 1933 the Department is authorized to place riprap for the protection of Stony Beach from erosion by the sea, at a cost of not more than \$16,000. The statute provides that no work shall be begun until the town of Hull has assumed liability, in the manner provided by section 29 of Chapter 91 of the General Laws, for all damages that may be incurred, nor until the sum of \$4,000 each has been paid into the State Treasury by the town and by the County of Plymouth. This act takes full effect upon its acceptance during 1933 by vote of the County Commissioners of Plymouth County and by vote of the town of Hull in town meeting and the filing in the office of the Department of certified copies of these votes.

In August a certified copy of a vote of the County Commissioners at a meeting held Aug. 8, 1933, accepting the provisions of the Act, was filed with the Department, and a certified copy of the vote of the town at a meeting held Sept. 21, 1933, in acceptance of the statute, was received later.

Not until Oct. 31, 1933, however, did the town of Hull vote to assume liability for damages, as required by the Act, and to authorize the Selectmen to execute the necessary bond of indemnity.

The contributions of \$4,000 each from the town and county were received in November, but no contract for the work has yet been made.

WOLLASTON DREDGING

By Chapter 222 of the Acts of 1932, the Department is authorized to dredge a channel to a depth of not less than 6 feet at mean low water, from Quincy Bay southwesterly to the area in front of the Wollaston Yacht Club and the Squantum Yacht Club, and to dredge a basin in said area. The statute limits the total expenditure to \$12,000 and provides that no work shall be begun until the City of Quincy has paid into the State Treasury a contribution of \$3,000.

Upon the receipt of the required contribution on June 5, 1933, a contract with the Bay State Dredging and Contracting Company was made on June 6, 1933, to dredge to a depth of 6 feet at mean low water a basin and channel at the Squantum and Wollaston Yacht Clubs, the basin 600 feet on the southerly side, 120 feet on the westerly end, and 300 feet on the easterly end, narrowing into an approach channel 75 feet wide on the bottom, to be dredged northerly from the basin for such length as funds available permit. The contract prices are: for dredging channel and basin and disposing of dredged material, 38 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$10 per cubic yard. This work was completed July 11, 1933, at a contract cost of \$11,893.62.

SURVEYS

During the year re-surveys were made of wharf and shore lines along parts of Mystic River in Charlestown, Somerville and Medford, of Chelsea Creek in East Boston and Chelsea, and of Charles River in Boston and Cambridge.

Hydrographic surveys have been made in various locations in Boston Harbor, in Mystic River between Malden Bridge and the Eastern Division Bridge of the Boston and Maine Railroad, in Charles River between the Boston and Maine Railroad Bridge and the Charles River Dam, in Dorchester Bay near the Old Colony Yacht Club, and in Quincy Bay at the Squantum and Wollaston Yacht Clubs.

RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, chapter 91, General Laws, an appropriation of \$25,000 was made during 1931, with the following condition:—

“provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered.”

An appropriation of \$22,500 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from the tide waters and great ponds.

Petitions were filed with the Department during the year for surveys and improvements in the following localities: Allens Harbor, Harwich; Bathhouse Beach, West Dennis; Falmouth Inner Harbor, Falmouth; Harwich Shore Protection; Herring River Dike, Wellfleet; Horse Grass Island, South Harwich; Humarock Beach, Scituate; Ipswich River, Ipswich; Nobscusset Harbor, Dennis; Sagamore Beach, Bourne; Sengekontacket Pond, Oak Bluffs; South Dennis Shore, Dennis; Stage Harbor, Chatham; Witchmere Harbor, Harwich.

Public hearings have been held, certain estimates of cost made, but no work has been done to carry out the improvements petitioned for in Horse Grass Island, South Harwich; Humarock Beach, Scituate; Ipswich River, Ipswich; Sagamore Beach, Bourne; Sengekontacket Pond, Oak Bluffs; Stage Harbor, Chatham.

Information relating to work previously done in various rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands of the Department of Public Works, and in the tables of the Appendix accompanying the present report. These tables show localities, character of work, appropriations and expenditures by the Commonwealth, and certain appropriations and expenditures by the Federal Government.

An account of work done during the year 1933 for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor follows:

ALLENS HARBOR, HARWICH

Hearing was held on Jan. 25, 1933, on petitions of the Selectmen of Harwich and of E. O. Engstrom for repairs to the stone jetties at the entrance to Allens Harbor.

A contract was made on Mar. 14, 1933, with Joseph W. Nickerson for placing stone riprap and chips to reinforce and strengthen the existing timber jetties, at a contract price of \$3.19 per ton for riprap or stone chips furnished and placed in the completed work. Under this contract work was completed May 17, 1933, at a contract cost of \$11,847.13. Toward this cost a contribution of \$3,000 was made by the town of Harwich and one of \$3,500 by the Allen's Harbor Properties, Inc.

While the jetties at the entrance to the harbor are now in excellent condition, the movement of material into the channel before repairs were made has caused considerable shoaling. Dredging is now needed to restore a suitable depth in this channel.

Amount expended during the year, \$12,438.63. Total expenditure to Dec. 1, 1933, \$51,146.43.

CAPE COD CANAL LANDING PIER

The work of building in the Cape Cod Canal at Bourne Neck, the landing pier authorized by Chapter 441 of the Acts of 1931, has continued during 1933.

Under contract of Apr. 26, 1932, with the Merritt-Chapman and Scott Corporation for building the pier, dredging a berth, approach channels and turning basin, and constructing mooring dolphins and appurtenances, work was completed Mar. 25, 1933, at a contract cost of \$215,500.95.

On May 2, 1933, a contract was made with the Pasquale Construction Company, Inc., for the construction of a concrete retaining wall about 310 feet long around the raised portion of the pier, of concrete steps and ramps, for the furnishing and laying of about 120 feet of 6 inch and 80 feet of 2 inch water pipe, and for the setting of one hydrant and check valve for fire service, at the Cape Cod Canal Pier. This work was completed June 29, 1933, at a contract cost of \$1,737.75.

On June 6, 1933, a contract was made with the Waghorne-Brown Company to construct two moveable gangways in the drops of the Cape Cod Canal Pier at a contract price of the lump sum of \$2,645 for furnishing the two gangways and erecting them in place ready to operate. During the progress of the work it was found advisable to install a locking device at an additional cost of \$175. Work under this contract was completed Aug. 31, 1933.

Plans and estimates were prepared in the spring for building different types of superstructures upon the pier. As the funds at the disposal of the Department were limited, it became evident that the architectural style of structure desired by local interests could not be built for the money available. Under the provisions of Chapter 227 of the Acts of 1933, an additional appropriation of \$12,500 was made to permit the construction of a brick building of the type approved by the communities particularly interested in the matter.

A contract was made on June 6, 1933, with the Durso Construction Company for the construction of a building approximately 220 feet long and 35 feet wide at the Cape Cod Canal Pier for the lump sum of \$21,378. In July the contractor was authorized by the Board to substitute in the construction for the blue monson slate specified, an unfading green slate at an additional cost of \$644. The work under this contract is now nearing completion.

On July 25, 1933, a contract was made with the Mass. Electric Construction Company to furnish and install complete a lighting and power service in the building and pier at the Cape Cod Canal Pier, for the lump sum of \$1,239. An additional expenditure of \$64 was authorized later under this contract to provide for installing two lightning ground pipes. This work was completed Oct. 24, 1933, at a contract cost of \$1,292.12.

While not entirely completed and equipped the landing pier could be used by vessels in the spring of this year. As many inquiries were made by steamboat companies concerning charges for the use of the pier, the Board established temporary rates approved by the Governor and Council Mar. 29, 1933, and effective Apr. 1, 1933. These regulations are now in force but will be superseded later by permanent rates.

The pier as now completed provides dockage on the main frontage for a length of 600 feet with a depth of 25 feet at mean low water. There is also a tieup about 550 feet long on the westerly end and a depth of 23 feet at mean low water. As yet, the use made of the pier has been principally for the landing of excursion parties, although one small steamer was operated during the fall to carry shipments of freight to New York. At present the tying up at the pier of contractors' equipment has facilitated the work of the Federal Government in dredging operations in the Cape Cod Canal.

Amount expended during the year for construction \$87,469.35, for operation and maintenance \$2,135.46. Total expenditure to Dec. 1, 1933, for construction \$258,362.64, for operation and maintenance \$2,135.46.

CONNECTICUT RIVER, HADLEY

Hearing was held Oct. 4, 1933, on the petition of the Chairman of Selectmen of Hadley for the building of a dike for the protection of property from damage by the overflow of the Connecticut River.

Toward the cost of the work a contribution of \$2,000 was made by the town of Hadley. The construction is now being carried on by local labor, in accordance with the request of the Selectmen.

Amount expended during the year, \$3,214.09. Total expenditure to Dec. 1, 1933, \$121,955.04.

CUTTYHUNK HARBOR, GOSNOLD

Chapter 179 of the Acts of 1933, authorizes the Department to dredge and enlarge the harbor in the town of Gosnold at an expenditure not exceeding \$10,000, provided a contribution of 10% of the cost of the work is made, and the town assumes liability for damages.

At a town meeting held May 26, 1933, the town voted to assume liability for damages in accordance with the provisions of the act, and in June sent the required contribution of \$1,000.

A contract was made on June 27, 1933, with the Saybrook Dredging Company for dredging in Cuttyhunk Harbor a channel 75 feet wide on the bottom and 10 feet deep at mean low water, and to the same depth a basin 300 feet wide and 500 feet long on the bottom at the following contract prices: for dredging and disposing of the excavated material on shore by the hydraulic process, including construction of necessary dikes and sluices, 28.8 cents per cubic yard measured in situ; for removing and disposing of boulders \$10 per cubic yard. This work was completed Sept. 9, 1933, at a contract cost of \$9,160.70.

After the completion of the dredging the engineer reported that shoaling in this harbor is chiefly due to the passing of sand over the top of the northerly jetty and recommended the building of a concrete wall on the stone work of this jetty. As the materials needed are available a short distance from the jetty, it was suggested that the project be carried out on a day basis by using local labor. This work has been authorized by the Board and is now in progress by the method suggested.

Amount expended during the year, \$12,846.93. Total expenditure to Dec. 1, 1933, \$83,935.78.

DENNIS SHORE

Hearing was held Jan. 25, 1933, on the petition of George F. James and Mary Buckley for the building of a stone jetty on the easterly side of property of Fred H. Buckley at Dennisport to check the erosion taking place along the shore.

On Aug. 15, 1933, a contract was made with Sidney W. Lawrence for the construction of a stone jetty at Dennisport at a contract price of \$3.12 for each ton of 2,000 pounds of stone riprap and granite chips furnished and placed in the jetty. This work was completed Oct. 14, 1933, at a contract cost of \$1,007.76. Toward this cost a contribution of \$600 was made by the owners of property involved.

On Sept. 6, hearing was held upon the petition of the Selectmen of Dennis for the protection of the shore westerly of Nobscusset Harbor.

On Sept. 19, 1933, a contract was made with Sidney W. Lawrence to construct two stone jetties west of Nobscusset Harbor at a contract price of \$3.10 for each ton of stone riprap furnished in place in the completed work. Toward the cost of these jetties a contribution of \$600 each has been made by the town of Dennis and by the County of Barnstable. This work is now in progress.

Hearing was also held on Sept. 6, 1933, upon the request of the town officials for protection of the property of the town at Bathhouse Beach, West Dennis, from erosion by the sea.

On Nov. 28, 1933, a contract was made with Sidney W. Lawrence to build a stone jetty at this beach at a contract price of \$3.10 for each ton of stone riprap and granite chips furnished and placed in the jetty.

Toward the cost of this work a contribution of \$375 has been made by the Town, and an equal amount by the county.

Amount expended during the year, \$884.95. Total expenditure to Dec. 1, 1933, \$884.95.

ELLISVILLE HARBOR, PLYMOUTH

For some years the work of repairs at this harbor has been carried out by local labor under the general direction of the Department. During the current year the dike and the timber work in the jetty have been repaired by this method.

A letter contract of June 21, 1933, was also made with Arthur K. Finney to furnish a caterpillar crane and excavate the entrance channel at a price of \$4 per hour. This work was completed July 13, 1933, at a contract cost of \$200.

Amount expended during year, \$499.40. Total expenditure to Dec. 1, 1933, \$20,673.58.

FALMOUTH INNER HARBOR

Hearing was held on Aug. 16, 1933, on the petition of the Selectmen of Falmouth for widening and deepening the entrance from Vineyard Sound into Falmouth Inner Harbor.

A contract was made on Sept. 5, 1933, with the Bay State Dredging and Contracting Company for dredging in the entrance channel to a depth of 10 feet at mean low water and a width of 100 feet on the bottom at the following contract prices: for dredging and disposing of the dredged material 47 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed Oct. 4, 1933, at a contract cost of \$3,611.48. Toward this cost a contribution of \$2,000 was made by the town of Falmouth.

Amount expended during the year, \$3,883.37. Total expenditure to Dec. 1, 1933, \$154,279.63.

GREEN HARBOR, MARSHFIELD

On Dec. 27, 1932, a contract was made with Thomas Whalen & Sons, Inc., for placing about 600 tons of stone riprap to protect the shore, adjacent to the northerly end of the east jetty at the entrance to Green Harbor, at a contract price of \$1.88 for each ton of stone riprap or chips furnished in place in the completed work, including all excavation, backfilling and incidental work. This project was completed Feb. 25, 1933, at a contract cost of \$1,341.43.

Amount expended during the year, \$1,769.01. Total expenditure to Dec. 1, 1933, \$167,238.38.

GUN ROCK — GREEN HILL SEA WALL, HULL

The building of eight concrete spur jetties and the placing of a concrete footing in front of a part of the sea wall between Gun Rock and Green Hill, under contract of Oct. 25, 1932, with Thomas Whalen and Sons, Inc., was completed Dec. 29, 1932, at a contract cost of \$1,095.22.

On Mar. 15, 1933, a letter contract was made with George W. Starbuck for repairs to a damaged portion of the sea wall, at a contract price of \$980. This work was completed Apr. 21, 1933.

In October letters were received from property owners complaining of the condition of parts of this wall and asking further protection for the shore. The Department offered to place riprap at an estimated cost

of \$2,500 upon receipt of a contribution of one-half this cost. The town has voted to make the necessary appropriation, but, on account of the objection made by some of the property owners to the use of riprap along this shore no further action has been taken.

Amount expended during the year, \$2670.29. Total expenditure to Dec. 1, 1933, \$42,093.96.

HARWICH SHORE PROTECTION

The work of building a stone jetty at West Harwich under contract of Nov. 9, 1932, with Sidney W. Lawrence was completed Dec. 17, 1932, at a contract cost of \$714.43.

Hearing was held Jan. 25, 1933, on petitions of the Selectmen of Harwich for further shore protection.

In October the Barnstable County Commissioners voted to make a contribution of \$2,000 toward the cost of shore protection, to be used with the appropriation of an equal amount by the town. Proposals for building seven jetties on the beach east of Allens Harbor, for extending the jetty and placing riprap at West Harwich, and for repairs to jetty and riprap at South Harwich, are to be received early in December.

Amount expended during the year, \$1,070.59. Total expenditure to Dec. 1, 1933, \$31,822.24.

HERRING RIVER, HARWICH

On Feb. 7, 1933, a contract was made with Arthur K. Finney to furnish and place sand along the easterly shore of Herring River, Harwich, on property of Charles E. LeBuff, for the lump sum of \$572. Work was completed Apr. 6, 1933, at a contract cost of \$572. Toward this cost a contribution of \$300 was made by the town of Harwich.

Complaints were received in June of shoaling at the mouth of Herring River in an amount sufficient to prevent the entrance of yachts accustomed to use this harbor. As the dredging plant of the Saybrook Dredging Company was just completing dredging at Witchmere Harbor, a letter contract with this Company was made on July 7, 1933, for dredging the entrance channel to Herring River 100 feet wide and 6 feet deep at mean low water at a contract price of \$1,800. This work was completed July 14, 1933.

Amount expended during the year, \$2,690.61. Total expenditure to Dec. 1, 1933, \$134,720.58.

HERRING RIVER, WELLFLEET

Chapter 217 of the Acts of 1933 authorizes the Department, for the purpose of providing better drainage above the dike across the mouth of Herring River, to make, in consultation with the State Reclamation Board, such changes as appear necessary in the dike and its appurtenances, and to dredge or clear all obstructions in the channels above the dike at an expenditure not exceeding \$10,000.

Repairs and changes in the dike by the use of local labor in charge of an inspector from the Department, have been made in accordance with plans agreed upon by the Department of Public Works and by the State Reclamation Board. This part of the work has cost approximately \$3,000.

In repairing the dike sections of the floor have been removed and the area beneath has been filled with concrete to seal leaks causing damage to the structure. A section of the upper part of the timber sluices was also removed and replaced by a reinforced concrete slab. The two tide gates were changed to permit discharge of water under a smaller head, and the sluice gate was replaced by the so-called "barn-door" type gates. As a result of these changes the discharge of water through the dike has been increased about fifty percent. This additional discharge area will maintain the water level of the pond above the dike at a lower elevation

which will facilitate the flow from the more remote portions of the marsh land drained by Herring River.

To carry out the drainage work above the dike, the two Boards have decided to hire on an hourly basis a caterpillar crane, including an operator and fuel, and to secure from local sources the additional labor required. This method permits of greater flexibility and allows changes from day to day as conditions necessitate. This work is now in progress.

Amount expended during the year, \$4,811.12. Total expenditure to Dec. 1, 1933, \$39,320.50.

HYANNIS HARBOR, BARNSTABLE

The work under contract of June 28, 1932, with Thomas Whalen and Sons, Inc., for building about 900 linear feet of creosoted timber bulkhead, was completed Dec. 10, 1932, at a contract cost of \$10,699.10.

The dredging of three areas in the harbor under contract of Aug. 9, 1932, with the Saybrook Dredging Company was completed May 13, 1933, at a contract cost of \$23,766.08.

The laying of pipes and building of four catch basins at the town landing east of Ocean Street under contract of Oct. 4, 1932, with Thomas Whalen and Sons, Inc., was completed Nov. 26, 1932, at a contract cost of \$821.50.

The work under the various contracts has provided a channel with a depth of 9 feet at mean low water from the outer harbor to the harbor head, and additional anchorage areas 6 feet deep at mean low water. The bulkhead now offers facilities for tying up yachts and fishing vessels of a draft of not more than 9 feet.

Amount expended during the year, \$29,246.94. Total expenditure to Dec. 1, 1933, \$40,494.50.

LAGOON POND, OAK BLUFFS AND TISBURY

Work under contract of Aug. 23, 1932, with Merritt-Chapman and Scott Corporation for dredging a channel at the entrance to Lagoon Pond and for building a stone jetty on the easterly side of the entrance was completed Dec. 21, 1932, at a contract cost of \$24,101.16.

The completion of this project has provided an entrance channel 6 feet deep at mean low water into Lagoon Pond, and a jetty of much value in improving the channel depth and causing the accretion of material along the Oak Bluffs shore where erosion has been rapid for many years.

Amount expended during the year, \$9,379.86. Total expenditure to Dec. 1, 1933, \$25,855.90.

LONG BEACH, ROCKPORT

The sea wall built by the Commonwealth in 1931 along this beach was somewhat damaged by the storm of Jan. 25-28 of this year, making it necessary to place a concrete footing under a part of the structure and riprap protection along the toe.

Under a letter contract of Feb. 21, 1933, with Napoleon J. Loran-deau a concrete footing was placed under about 250 feet of this wall. The work was completed Mar. 11, 1933, at a contract cost of \$1,030.66.

On Apr. 25, 1933, a contract was made with Thomas Whalen and Sons, Inc., for furnishing and placing about 2,000 tons of stone riprap and chips to protect the face of a portion of the concrete sea wall at Long Beach at a contract price of \$1.43 per ton for riprap or stone chips furnished and placed in the completed work. This project was completed June 2, 1933, at a contract cost of \$3,134.74. Toward this cost a contribution of \$1,700 was made by the town of Rockport.

Amount expended during the year, \$4,790.25. Total expenditure to Dec. 1, 1933, \$57,306.56.

MARSHFIELD SHORE PROTECTION

Under the provisions of Chapter 407 of the Acts of 1931, protective work along the Marshfield shore has been continued during the year.

The building of the sea wall south of the U. S. Coast Guard Station at Brant Rock, under contract of Sept. 27, 1932, with A. Piatelli and Company was completed Jan. 2, 1933, at a contract cost of \$8,643.15.

To repair damage caused by the storm of Jan. 25-28, a letter contract was made on Feb. 14, 1933, with Frank H. Barry to place concrete footing under the wing wall at the northerly end of the sea wall at Fieldstone. This work was completed Mar. 20, 1933, at a contract cost of \$1,260.32.

On June 6, 1933, a contract was made with the Corsetti and Arcese Company for building about 400 linear feet of concrete sea wall, about 115 feet of reinforced concrete footing and about 250 linear feet of reinforced concrete cap and back to old masonry wall. and for backfilling about 250 linear feet of wall, at Brant Rock. The contract prices for this work are: for furnishing material and constructing the concrete sea wall, including all excavation, backfilling, removing old walls and all incidental work, \$7.32 for each cubic yard of concrete measured in the completed work; for furnishing material and constructing the reinforced concrete footing, including all excavation, filling and backfilling, removing old walls or structures and all incidental work, \$8.00 for each cubic yard of reinforced concrete measured in the completed work; for furnishing material and constructing the reinforced concrete cap, backing and steel dowels, including all excavations, backfilling, and all incidental work, \$8.60 for each cubic yard of reinforced concrete in the completed work; for each cubic yard of filling material furnished, delivered and measured in place in the completed work 40 cents. This work was completed Aug. 30, 1933, at a contract cost of \$7,880.63.

Amount expended during the year, \$14,692.35. Total expenditure to Dec. 1, 1933, \$229,665.64.

NAHANT SHORE PROTECTION

By Item 591a of Chapter 371 of the Acts of 1933 an appropriation of \$15,000 is made available for shore protection in Nahant as soon as the town pays an equal sum into the State Treasury.

The town made the required contribution in August, and contract was made on Oct. 10, 1933, with the M. McDonough Company to place about 14,000 tons of heavy stone riprap for the protection of about 2,400 linear feet of shore on the westerly side of Nahant Road, at a contract price of \$1.18 for each ton of stone riprap furnished in place in the completed work.

This work is now in progress.

Amount expended during the year, \$2,296.28.

NEW BEDFORD STATE PIER

Because of the landing of unusually large cargoes of cotton at the State Pier early in the year, the commercial and shipping interests of New Bedford asked for an increase in the covered area for the receipt of goods, in order that proper protection might be assured while cargo was waiting for shipment.

At about this time also the Lamport Manufacturing Supply Company, Inc., requested a reduction in the rental which this year increased from \$6,000 to \$10,000 per annum under the terms of the lease of July 29, 1927, of a portion of the pier.

At the request of the Mayor and Aldermen under the provisions of Chapter 375 of the Acts of 1920, a public hearing was held on these matters in New Bedford on Mar. 23, 1933. At the hearing and at various

conferences held relative to the situation, it was evident that while the City authorities and the Board of Commerce wished to secure more space for cargo at the pier, they were desirous of retaining for the city the industry carried on at the pier by the Lamport Manufacturing Supply Co., Inc. This industry was considered of particular value to the city at this time because of the employment it provides for local workers.

After consideration of all the circumstances the Department suggested that a new lease be executed requiring the Company to surrender for shipping and cargo purposes a part of the northerly platform in the wooden shed on the pier, and granting in return for this concession a reduction in rental sufficient to ensure the continuance of the industry desired by the city. Under date of Apr. 27, 1933, an indenture was executed abrogating by mutual agreement the lease of July 29, 1927, and negotiating a new lease for a term of three years. This instrument, approved by the Governor and Council May 3, 1933, reserves for the use of shipping 180 feet of the northerly platform of the wooden shed, and fixes the rental of the Lamport Manufacturing Supply Company, Inc., at \$5,500 per year for the term of the lease.

On July 5, 1933, a contract was made with the J. S. Packard Dredging Company to dredge the north and south docks and their approaches at the New Bedford State Pier: the north dock and approach to a depth of 30 feet at mean low water with a bottom width of 57 feet; the outer portion of the south dock and approach to a depth of 25 feet at mean low water with a bottom width of 40 feet; the inner portion of the south dock to a depth of 20 feet at mean low water with a bottom width of 40 feet. The contract prices for this work are: for dredging and disposing of the dredged material 48 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. Because of the high unit costs of this work the funds available limited the project to the dredging of the northerly dock and of the approaches to both docks. Work was completed Oct. 2, 1933, at a contract cost of \$6,999.96.

Proposals for new doors, steel sash and repairs to plaster walls by the gunite process were received Nov. 28, 1933, and contract for the work awarded to the National Gunite Contracting Company.

Minor repairs to the pier have been made as usual during the year.

Amount expended for operation, maintenance and improvement during the year, \$13,594.63.

Income during the year, \$19,248.84.

Total expenditure for operation, maintenance and improvement to Dec. 1, 1933, \$137,988.12.

OAK BLUFFS SEA WALLS

The work of repairs and additions to the timber bulkhead and jetties at the Highlands, carried on under letter contract of Nov. 28, 1932, with Arthur K. Finney, was completed Jan. 17, 1933, at a contract cost of \$2,348.57. Toward this cost a contribution of \$1,500 was made by the town.

Under contract of Nov. 29, 1932, with the Merritt-Chapman and Scott Corporation for the removal of a broken section of the concrete sea wall southerly of the entrance to Lake Anthony, for the building of a new section, and for the placing of riprap, work was completed Jan. 16, 1933, at a contract cost of \$2,259.65.

On Sept. 5, 1933, a contract was made with the Pasquale Construction Co., Inc., for the construction of about 145 linear feet of concrete footing along the toe of the existing concrete sea wall north of the Steamboat Wharf at a contract price of \$23 per cubic yard for each cubic yard of concrete measured in place in the completed work.

Additional work was authorized later under this contract to pro-

vide for the placing of a concrete footing under another section of wall undermined by the storms in September. The entire work was completed Oct. 11, 1933, at a contract cost of \$1,340.21.

A contract was made on Sept. 19, 1933, with Joseph W. Nickerson to place stone riprap to protect the southerly shore of Lake Anthony adjacent to the highway at a contract price of \$2.98 for each ton of stone riprap furnished in place in the completed work. This project was completed Oct. 24, 1933, at a contract cost of \$909.82. Toward this cost a contribution of \$500 was made by the town.

An examination during the year of the section of shore near the bathhouse southerly of the steamboat wharf, revealed so much damage to sea walls in this location that the highway is in danger of being undermined if the erosion continues. The town appropriated \$6,000 as a contribution toward the cost of building a sea wall and spur jetties, but has been unable to secure the releases necessary from the Vineyard Grove Company, owner of adjacent property. Under these circumstances no protective work has been undertaken at this shore.

Amount expended during the year, \$8,426.24. Total expenditure to Dec. 1, 1933, \$238,511.08.

ORLEANS SHORE

A contract was made on June 27, 1933, with J. W. Nickerson for placing stone riprap to protect the shore adjacent to the highway bordering Pleasant Bay in the town of Orleans, at a contract price of \$2.98 for each ton of stone riprap furnished in place in the completed work, including all excavation, back filling and incidental work. The work was completed July 28, 1933, at a contract cost of \$1,747.41. This cost was paid from funds available for highway maintenance.

Amount expended during the year, \$1,861.03.

COMMONWEALTH PROPERTY AT PLYMOUTH

An appropriation of \$3,800 was made by the Legislature this year for the maintenance and repair of property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Department by vote of the Governor and Council on July 17, 1924.

The usual care of the grounds and of the pier and necessary minor repairs were carried on during the year.

Requests received from various steamship lines for the use of the pier for passenger service made it advisable to amend the rules and regulations adopted in 1927. The following amendment was approved by the Governor and Council on June 21, 1933:

"Said pier shall not be used for commercial purposes by any person or concern except by boats for the embarkation or landing of passengers."

Amount expended during the year, \$3,407.07. Total expenditure to Dec. 1, 1933, \$48,056.48.

PROVINCETOWN TERCENTENARY COMMISSION

During the year the land at Provincetown acquired by the Provincetown Tercentenary Commission and placed under the control of the Department June 23, 1926, has been cared for from funds appropriated for this area and the Province Lands. An employee of the Department has been kept at work during the summer to maintain the park in proper condition.

SCITUATE SEA WALLS

North Scituate

During the winter an inspection of the concrete sea wall at Surfside road found a section about 100 feet long undermined to a depth of 2 feet, and one of the spur jetties practically destroyed. A letter contract

was made under date of Feb. 14, 1933, with Frank H. Barry for the necessary repairs. The work was completed May 19, 1933, at a contract cost of \$2,540.91.

Work Under Special Legislation

By Chapter 286 of the Acts of 1933 the Department is authorized to expend not more than \$75,000 to build extension to certain sea walls and to repair existing sea walls and other shore protection in the town of Scituate. The Act stipulates that no work shall begin until the Town has voted to accept the provisions of the statute, assumed liability for damages and paid into the Treasury of the Commonwealth \$18,750, nor until the County Commissioners of Plymouth County have voted to accept the provisions of the Act and said County has paid \$18,750 into the State Treasury.

In August the Selectmen and County Commissioners filed with the Department certified copies of the required votes accepting the provisions of the Act. The Town also voted to assume all liability for damages. The contributions from the town and county made in accordance with the provisions of the statute were received in early September.

Under authority of this act work has been done covering the construction, extension and repair of sea walls in Scituate, and riprap protection of the shore, as follows:

Glades

On Oct. 4, 1933, a contract was made with Thomas Whalen and Sons, Inc., for the construction of about 250 linear feet of reinforced concrete cap and face to old concrete wall, the removal of about 128 feet of old concrete wall, and the placing of about 3,000 tons of stone riprap along the face of the concrete wall at the Glades, at the following contract prices: for furnishing material and constructing reinforced cap and face of wall, \$10 for each cubic yard of reinforced concrete measured in the completed work; for furnishing the stone riprap and depositing it in place along the concrete wall, \$1.65 for each ton of stone riprap furnished and in place in the completed work; for removing and disposing of about 128 linear feet of old concrete wall, the lump sum of \$150. This work was completed Nov. 24, 1933, at a contract cost of \$8,824.58.

Sand Hills and Cedar Point

An examination made in November of the sea walls at the Sand Hills found repairs needed to the wall originally built by the County and to the sea wall at Cedar Point damaged by action of the shingle on the beach. The repairs necessary for restoring these walls have been authorized, but no work has yet begun.

Shore Acres

On Sept. 5, 1933, a contract was made with Henry N. Worthington to furnish and place about 4,200 tons of heavy stone riprap and about 800 tons of stone chips to protect approximately 700 linear feet of bank at Shore Acres, at a contract price of \$1.38 for each ton of heavy stone riprap and chips furnished and placed in the completed work. Work under this contract was completed Nov. 11, 1933 at a contract cost of \$4,697.52.

A contract was made on Sept. 5, 1933, with A. K. Finney for the construction of about 930 linear feet of concrete sea wall, and the placing of about 1,100 tons of heavy stone riprap in front of the wall at Shore Acres, at the following contract prices: for furnishing material and constructing the concrete sea wall \$7.82 for each cubic yard of concrete measured in the completed work; for furnishing and placing heavy stone riprap for apron \$1.92 for each ton in the completed work. Under this contract, work is now in progress.

On Sept. 5, 1933, proposals were received for building a concrete sea wall and riprap apron along the shore in front of Oceanside Drive from a point northerly of Fourth Avenue to Eleventh Avenue. Protests from various owners of property were received against the building of the wall for a distance of about 600 feet easterly from Eleventh Avenue. The objections were carried to the point of the filing of a suit of equity in this matter.

Thomas H. Hannaford to whom the contract was awarded agreed to accept its terms and to build the shorter structure excluding the portion of the wall under controversy. On Sept. 12, 1933, a contract was made with Thomas H. Hannaford for the construction of about 2750 linear feet of concrete sea wall, seven concrete jetties, and furnishing and placing about 3,300 tons of heavy stone riprap in front of the wall, extending from the Sand Hills to Shore Acres, at the following contract prices: for furnishing material and building the concrete sea wall and jetties, \$7.79 for each cubic yard of concrete measured in the completed work; for furnishing and placing heavy stone riprap for apron, \$2.243 for each ton in the completed work. This work is now in progress.

Later in the season the property owners reached some compromise in the matter and asked the Department to build the remaining section of sea wall in accordance with the original specifications. No further action has been taken by the Department.

Third Cliff

A contract was made on Sept. 5, 1933, with Raymond A. Bergesson to place about 1,500 tons of stone riprap along the shore at Third Cliff, at a contract price of \$1.90 for each ton of riprap or stone chips furnished and placed in the completed work. This work is now in progress.

Amount expended in Scituate during the year for shore protection, \$45,532.14. Total expenditure to Dec. 1, 1933, for shore protection in Scituate, \$450,998.99.

TAUNTON RIVER

No work has been done by the Department this year upon the project to be carried out under the provisions of Chapter 405 of the Acts of 1930, by the dredging of a turning basin in Taunton River at Weir Village at the terminus of the channel to be dredged by the Federal Government to a depth of 12 feet at mean low water in the river.

As the Federal Government has not yet completed the channel, it was considered inadvisable to excavate the turning basin. It is expected that the channel will be finished during the coming year so that the Department can proceed to dredge the basin.

No expenditure during the year. Total expenditure to Dec. 1, 1933, \$31,561.95.

WARRENS COVE, PLYMOUTH

The damage done by heavy storms to the sea wall built by the Commonwealth in 1916 and 1917 near the Hotel Pilgrim has resulted in partially destroying the structure and in exposing the bank to severe erosion. The need for repairs and for the placing of riprap has been urgent for some years.

During the storm of Jan. 27-28 the bank back of the Hotel was further eroded and three walls built by owners of property between the two sections of the wall constructed by the Commonwealth, were completely destroyed. Requests were received from the town and from the property owners for adequate protection for this shore.

Repairs to existing walls, the building of concrete spur jetties and new walls, and the placing of riprap are provided for under the following contracts.

A contract was made on Apr. 25, 1933, with Tocci Bros. for building about 265 linear feet of concrete sea wall and five concrete jetties at Warrens Cove, Plymouth, at the following contract prices; for furnishing material and constructing the sea wall, \$8.50 for each cubic yard of concrete measured in the completed work; for furnishing materials and constructing five concrete jetties, \$8.50 for each cubic yard of concrete measured in the completed work. These structures were completed June 3, 1933, at a contract cost of \$5,170.94. Toward this cost contributions amounting to \$3,000 were made by the owners of property benefiting by the protection afforded by the work.

On May 16, 1933, a contract was made with Arthur K. Finney to furnish and place about 4,200 tons of stone riprap and chips for shore protection, to make repairs to an existing concrete sea wall and to build two concrete jetties, at the following contract prices: for each ton of stone riprap or chips in place in the completed work, \$1.82; for each cubic yard of concrete in place in concrete wall, jetties or footings, \$8. Toward the cost of this project a contribution of \$2,500 has been made by the town. The work is now in progress.

Amount expended during the year, \$8,949.51. Total expenditure to Dec. 1, 1933, \$34,241.86.

WEST CHOP, TISBURY

The work of building stone jetties under contract of Aug. 16, 1932, with Joseph W. Nickerson, was completed Dec. 7, 1932, at a contract cost of \$4,175.48.

The low price secured by the Department for furnishing and placing stone riprap and granite chips in the work allowed the extension of the protection by the building of two additional stone jetties westerly of those originally proposed. The five jetties have been of much benefit in checking erosion, but have been somewhat damaged by the winter storms. The protective work needs to be extended farther to the west and repairs should be made to the present jetties.

Amount expended during the year, \$1,394.32. Total expenditure to Dec. 1, 1933, \$5,116.07.

WINTHROP BREAKWATER

By Chapter 256 of the Acts of 1932 the Department is authorized for the purpose of protecting Winthrop Shore Drive and other shore property in Winthrop, to construct a breakwater about 1,000 feet easterly of the shore or in such other location as it may deem advisable, at an expenditure of not more than \$150,000. The statute provides that no work shall be begun until the Town has contributed and paid into the State Treasury the sum of \$25,000.

The contribution required from the Town was received in May, 1933, and on June 27, 1933, a contract was made with the Merritt-Chapman & Scott Corporation for building a stone breakwater in Broad Sound off Winthrop Shore Drive in the town of Winthrop at a contract price of \$2.22 for each ton of stone riprap furnished in place in the completed work. Under this contract work was completed Nov. 30, 1933, at a contract cost of \$146,521.33.

Three sections of stone breakwater, about 1,000 feet easterly from the shore, have now been built, the two northerly sections to a length of about 300 feet each, and the southerly one to a length of about 240 feet. Gaps about 100 feet wide at the mean high water line have been left between these sections in the expectation that the effectiveness of the structures will not be diminished while the cost has been lessened. If it seems advisable later, these gaps can be filled by building connecting structures.

The present breakwater provides for less than one-half the length

of shore needing protection. It is hoped that funds will be made available during the coming year to extend the structure.

Amount expended during the year, \$11,279.49. Total expenditure to Dec. 1, 1933, \$208,861.53.

WITCHMERE HARBOR, HARWICH

A contract was made Apr. 25, 1933, with the Saybrook Dredging Company for dredging the entrance channel to Witchmere Harbor to a depth of 6 feet at mean low water and a width of 40 feet on the bottom with increased width at the harbor end, at a contract price of 56 cents per cubic yard measured in place for dredging and disposing of the excavated material on marsh and flats by the hydraulic process, including the construction of necessary dikes and sluices.

While this dredging was going on the contractor offered to extend the channel through the two outer shoals in Nantucket Sound at an additional price of \$1,000. This offer was accepted by the Department. The entire project was completed June 29, 1933, at a contract cost of \$5,888.79. Toward this cost a contribution of \$2,500 has been made by the town of Harwich.

Amount expended during the year, \$6,391.54. Total expenditure to Dec. 1, 1933, \$69,942.75.

Miscellaneous

GREAT PONDS

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by chapter 318, Acts of 1888. This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was later given by chapter 379, Acts of 1904, now section 2, chapter 91, General Laws.

During the year the Department has considered matters relating to: Blackmore's Pond, Wareham; Cedar Pond, Carver; Grass Pond, Harwich; Great Pond, Otis; Lake Quinsigamond, Worcester and Shrewsbury; Lake Tashmoo, Tisbury; Lake Winthrop, Holliston; Lead Mine Pond or Quassac Lake, Sturbridge; Long Pond, Harwich; Mill Ponds, Brewster; Nippinickett Pond, Bridgewater; Nutting Pond, Billerica; Oldham Pond, Hanson; Run Pond, Barnstable; Silver Lake, Pittsfield; Silver Lake, Wilmington; Snipatuit Pond, Rochester; South Pond, Barnstable; Whalom Lake, Lunenburg.

Surveys were made this year of the following great ponds:

Blackmore Pond, Wareham

Area at time of survey	45.36 A.
This pond may be drawn to an area of under license No. 832 approved by the Department of Public Works Sept. 28, 1927.	42.00 A.
Maximum depth	23.7 ft.

Cliff Pond, Brewster

Area at time of survey	201.19 A.
Maximum depth	94 ft.

Fawn Pond, Plymouth

Area at time of survey	46.63 A.
Area of natural pond	38.21 A.
Maximum depth	16.5 ft.

(Area at time of survey reported in 1932)

Flax Pond, Brewster

Area at time of survey	51.44 A.
Maximum depth	75 ft.

Long Pond, Rochester

Area at time of survey	33.84 A.
Depth note determined	

Lower Mill Pond, Brewster

Area at time of survey	52.07 A.
Area Natural Pond	37.99 A.
Maximum depth	13.0 ft.

Musquashiat Pond, Scituate

Area at time of survey	73.99 A.
Maximum depth	3.9 ft.

The height of water in this pond is affected to some extent by tide water and the water is brackish.

Snipatuit Pond, Rochester

Area at time of survey	704.9 A.
Pond contains three islands.	
Gull Island Area	0.33 A.
Low Bush Island Area	0.85 A.
High Bush Island Area	0.62 A.
These areas are not included in pond area.	
Depth not determined.	

Upper Mill Pond, Brewster

Area at time of survey	254.67 A.
Area natural pond	254.67 A.
Maximum depth	34.4 ft.

Amount expended during the year, \$3,696.37. Total expenditure to Dec. 1, 1933, \$29,029.71.

ACCESS TO GREAT PONDS

During the year one petition relative to access to a great pond has been heard under the provisions of Chapter 453 of the Acts of 1923.

On Dec. 14, 1932, public hearing was held before the Joint Board upon a petition of ten citizens of the Commonwealth for the establishment of a right of way to Jordan Pond in Shrewsbury and Worcester. At this hearing the petitioners, at the request of their attorney, were granted leave to withdraw.

By Chapter 180 of the Acts of 1933, the County Commissioners of Berkshire County were authorized to lay out a right of way in the town of Sandisfield to Lake Marguerite, also known as Simon pond, in said town for public access to said Lake, in accordance with plans approved by the Department of Public Works. Plans submitted by the County Commissioners were approved by the Department under date of Nov. 24, 1933.

PROVINCE LANDS

The territory belonging to the Commonwealth known as the Province Lands at Provincetown comprises about 3,810 acres lying northerly and westerly of a line described in chapter 470, Acts of 1893. By the terms of this act the Board of Harbor and Land Commissioners was given general care and supervision of this area.

Reclamation work under the direction of a superintendent has been carried on since 1894. To check the movement of the sand, the barren

dunes are first covered with brush or planted with beach grass. The grass is pulled in bunches about two inches thick and transplanted in rows about 4 feet apart and 6 inches deep. The transplanted grass lives between three and four years. This work is followed and reinforced by the transplanting of trees and shrubs.

During the year work on these lands has been continued in accordance with these methods. Sand dunes have been covered with brush; 30,000 native pines on the sod transplanted, and 150,000 seedling of Scotch and Austrian pines and 50 truck loads of bayberry planted.

Minor repairs have been made in replacing sod and in filling at the dike at Race Run.

The sum of \$101.05 has been paid into the State Treasury during the year from licenses issued for cultivating and picking cranberries on the bogs and for mowing meadows and from permits for occupying areas on these lands.

Amount expended during the year, \$4,700. Total expenditure to Dec. 1, 1933, \$166,634.58.

STATE BOUNDARY LINES

During the year about one and one half miles of the Massachusetts New Hampshire State line was relocated and two new monuments set in concrete.

TOWN BOUNDARY LINES

During the year several town boundary atlases were corrected and sold but no field work was done.

CONSERVING AND EQUALIZING THE FLOW OF WATER IN RIVERS AND STREAMS

By Chapter 359, Acts of 1909, chapter 564, Acts of 1912, and chapter 84, Resolves of 1917, co-operation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, so that results of work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by the said survey have been obtained for use by the Department and are available for other Departments of the Commonwealth. Toward the cost of this work the Department has paid during the year, \$4,000.

During the year several of the stream gauging stations were rebuilt and improved, but the cost of this work was paid from Federal Funds.

RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS

By section 33, chapter 91, General Laws, the Department is authorized to make such surveys and to do such other work as may be required by any order of the Land Court, to re-establish and permanently mark certain triangulation points and stations previously established in connection with the topographical survey of the Commonwealth, and the town boundary survey, which have been lost or destroyed and to obtain the geographical position of such new points and stations as may be required from time to time by the Court.

During the year the locations of the following triangulation stations were determined and permanently marked on the ground and the geographical positions furnished to the Land Court: 20 stations in Barnstable; 5 stations in Plymouth; 4 stations in Nantucket.

LICENSES AND PERMITS

During the year 99 licenses were granted for work to be done in tide water, great ponds, Connecticut River and Merrimack River and 108 permits for miscellaneous purposes. The Department also approved 106 permits granted by cities and towns for the construction and maintenance of fish weirs in tide waters.

EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR, 1859 — 1933, INCLUSIVE			
<i>Payments</i>	<i>To Nov. 30, 1932</i>	<i>1933</i>	<i>Total</i>
Boston Harbor	\$1,615,209 17 ¹		
Maintenance of Property		\$883.37	
Dredging and filling		30,969 69	
Special appropriations		71,760 01	\$1,718,822 24
Commonwealth Flats, East Boston	3,093,326 83 ²	—	3,093,326 83
Commonwealth Flats, South Boston	4,892,123 69	—	4,892,123 69
Castle Island	742,204 91		
Dredging and filling		981.50	
Maintenance of Property		578.50	743,764 91
Commonwealth Pier No. 5, South Boston:			
Construction	4,014,790 45	—	4,014,790 45
Maintenance	687,511 36	36,955 11	724,466 47
Dredging	22,050 36	3,607 04	25,657 40
Operation and Supervision	1,657,942 31	101,319 54	1,759,261 85
Commonwealth Pier No. 1, East Boston:			
Construction	1,199,703 23	—	1,199,703 23
Operation and Supervision	120,247 69	6,731 57	126,979 26
Maintenance	19,917 15	1,467 97	21,385.12
Commonwealth Pier No. 6, South Boston:			
Construction	1,092,149 06	—	1,092,149 06
Maintenance	51,937 90	—	51,937 90
Dry Dock	3,169,651 15 ³	—	3,169,651 15
Hayward Creek	385,979 61 ⁴	—	385,979 61
Mystic River	429,632 95 ⁵	770.60	430,403 55
Malden River	32,804 54 ⁶	198.30	33,002 84
Chelsea Creek	60,561 88	295 15	60,857 03
Commercial Point, Dorchester Bay	53,213 10	—	53,213 10
Maintenance of Property (in addition to maintenance items listed above)	364,144 80	11,913 52	376,058 32
	<u>\$23,705,102 14</u>	<u>\$268,431 87</u>	<u>\$23,973,534 01</u>

¹ Contribution by Quincy Market Cold Storage and Warehouse Corporation in 1921 . . . \$4,000 00
By Bethlehem Ship Building Corporation in 1930 . . . 10,000 00

² Appropriated by City of Boston in 1926 . . . 10,000 00

³ Additional amount paid by State Treasurer from Development of the Port of Boston Loan Sinking Fund in settlement of claims . . . 17,877 73

⁴ Contributions by Massachusetts Oil Refining Company and Bethlehem Ship Building Corporation . . . 38,600 00
Paid by State Treasurer for land taking . . . 3,725 27

⁵ Contribution by Merrimac Chemical Company . . .
in 1920 . . . 15,000 00
in 1922 . . . 4,182 50

Contribution by Beacon Oil Company in 1920 . . . 50,000 00

⁶ Expended by United States Government . . . 31,000 00

Contribution by Standard Oil Company of New York in 1922 . . . 600 00

EXPENDITURES AND CONTRIBUTIONS FOR IMPROVEMENT OF SMALL HARBORS
AND CHANNELS WITHIN BOSTON HARBOR, UNDER THE DIRECTION
OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS,
FROM 1893 TO 1933, INCLUSIVE

<i>Locality and Character of Work</i>	Contributions by	
	Municipality or Others	Total Expenditure
Cottage Park Channel, Winthrop, dredging	\$6,250.00	\$37,967 29
Dorchester, easterly shore, dredging and vey	1,000 00	210,767.61
Harbor View, dredging		146 00
Hingham Harbor, dredging	6,500 00	41,595 12
Houghs Neck, Quincy, dredging	7,500 00	46,088 31
Island End River, Everett, survey		264 10
Jeffries Point Channel, dredging		4,563 93
Mystic River (near Lawrence and Wiggin Wharf) dredging		5,927 70
Neponset River, dredging	10,000 00	109,401 63
Old Harbor Cove, dredging		10,520 48
Orient Heights Channel, dredging		45,412 38
Pemberton Point, Hull, breakwater	60,000 00	90,520 98
Pleasant Park Yacht Club Channel, dredging	3,000 00	16,241 49
Point Allerton, Hull, sea wall	50,000 00	75,127 05
Point Shirley, Winthrop		3,713 37
Quincy Bay, dredging	10,150 00	84,162 47
Shirley Gut, Boston and Winthrop, dredging		2,110 96
South Boston, Southerly Shore, dredging		129,542 08
Stony Beach, Hull, sea wall		12,556 58
Town River, Quincy, survey and dredging	16,050 00	57,663 25
Weir River, Hull, dredging	45,000 00	205,336 48
Wessagusset Channel, dredging		815 20
Weymouth Fore River, dredging	8,250 00	70,084 69
Winthrop Harbor Channels, dredging	17,192 00	73,984 22
	<hr/>	<hr/>
	\$240,892 00	\$1,334,513 37

EXPENDITURES AND CONTRIBUTIONS FOR RIVER AND HARBOR WORK
FROM DECEMBER 1, 1932 TO NOVEMBER 30, 1933

<i>Location and Character of Work</i>	Contributions	Expenditures
Allens Harbor, Harwich, jetty repairs	\$6,500 00	\$12,438 63
Bass River, Dennis and Yarmouth, survey	—	31.60
Brant Rock, Marshfield, sea walls and riprap	—	14,692.35
Cape Cod Canal Pier, Bourne, construction	—	87,469 35
Cape Cod Canal Pier, Bourne, operation and maintenance	—	2,135 46
Cape Poge, Edgartown, survey	—	215 00
Connecticut River, Hadley, dike construc- tion	2,000 00	3,214 09
Connecticut River, Hatfield, survey	—	72 91
Conservation of Waters	—	4,000 00
Cotuit Harbor, Cotuit, survey	—	260 97
Cuttyhunk Harbor, Gosnold, dredging and jetty repairs	1,000 00	12,846 93
Dennisport, stone jetty	600 00	884 95
East Bay, Osterville and Barnstable, sur- vey	—	45 52

<i>Location and Character of Work</i>	<i>Contributions</i>	<i>Expenditures</i>
Ellisville Harbor, Plymouth, jetty repairs	—	499 40
Falmouth Inner Harbor, dredging entrance channel	2,000 00	3,883 37
Geological Survey Trust Fund	480 00	2,709 90
Gloucester Harbor, Gloucester, survey	—	16 08
Great Ponds, survey	—	3,696 37
Green Harbor, Marshfield, stone riprap	—	1,769 01
Harwich Beach, shore protection	4,000 00	197 18
Herring River, Harwich, dredging and filling	300 00	2,690 61
Herring River, Wellfleet, dike	—	4,811 12
Hull, sea walls, concrete jetties and sea wall repairs	—	2,670 29
Hyannis Harbor, Barnstable, bulkhead and dredging	—	29,246 94
Improvement of Rivers and Harbors, general expenses	—	7,573 62
Ipswich River, Ipswich, survey	—	1,007 52
Lagoon Pond, Tisbury and Oak Bluffs, dredging and jetty	—	9,379 86
Lake Anthony, Oak Bluffs, stone riprap	500 00	850 23
Lewis Bay, Barnstable, survey	—	69.60
Long Beach, Rockport, riprap and sea wall repairs	1,700 00	4,790 25
Manchester Harbor, Manchester, survey	—	131 29
Marshfield-Duxbury, survey	—	358 61
Nahant, riprap	15,000 00	2,296 28
Namequoit River and Pleasant Bay, Chatham, riprap	—	1,861 03
New Bedford State Pier, operation and maintenance	—	5,420 89
New Bedford State Pier, construction and alterations	—	8,173 74
Nobscusset Harbor, Dennis, stone jetties	1,200 00	433 72
Oak Bluffs, bulkhead and sea wall repairs	1,500 00	7,576 01
Onset Bay, Wareham, survey	—	257 11
Plymouth Memorial Park, maintenance	—	3,407 07
Province Lands, Provincetown, reclamation	—	4,700 00
Sagamore Beach, Bourne, survey	—	78 85
Salisbury Beach, survey	—	1,690 05
Scituate, shore protection	37,500 00	
First and Second Cliffs, riprap	—	79 35
General surveys, Scituate	—	160 49
Glades, Scituate, sea wall	—	8,013 46
Humarock Beach, survey	—	38 23
North Scituate, Surfside, sea wall repairs	—	3,313 42
Sand Hills, concrete ramp	—	239 07
Sand Hills to Shore Acres, sea wall and jetties	—	17,626 47
Shore Acres, Scituate, wall and riprap	—	12,913 13
Third Cliff, Scituate, riprap	—	6,991 94
Sengekontacket Pond, Oak Bluffs, survey	—	104 28
Shirley Gut, survey	—	104 01
Singing Beach, Manchester, survey	—	81 80
Stage Harbor, Chatham, survey	—	136 52
Truro Beach, head of Pamet River, survey	—	71 74
Waquoit Bay, Falmouth and Mashpee, bulkhead and jetties	—	365 13

<i>Location and Character of Work</i>	Contributions	Expenditures
Warrens Cove, Plymouth, riprap, jetties and sea walls	5,500 00	8,949 51
Water Conservation—see Conservation of Waters		
West Bay, Barnstable and Osterville, survey	—	89 95
West Chop, Tisbury, stone jetties	—	1,394 32
West Dennis Beach, stone jetty	750 00	55 85
West Harwich Beach, Harwich, stone jetty	—	873 41
Winthrop Shore, Winthrop, stone breakwater	25,000 00	111,279 49
Witchmere Harbor, Harwich, dredging entrance channel	2,500 00	6,391 54
	<hr/> \$108,030 00	<hr/> \$429,826 87

EXPENDITURES AND CONTRIBUTIONS FROM 1893 TO 1933, INCLUSIVE, FOR RIVER AND HARBOR WORK, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS (EXCEPTING BOSTON HARBOR)

<i>Location and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Acushnet River, inspection and dredging	—	\$119,810 10
Allens Harbor, Harwich, shore protection, dredging, riprap and jetties	\$18,927 50	51,146 43
Allens Pond, Dartmouth, survey	—	195 95
Angle Tree Monument, reservation	—	1,306 22
Annisquam River, Gloucester, dredging, removing ledges and riprap	13,250 00	171,498 69
Apponagansett Harbor and River, Dartmouth, survey, dredging and stone breakwater	—	55,786 05
Barnstable Harbor, Barnstable, dredging	7,500 00	30,693 16
Bass River, Beverly, dredging	55,535 75	81,075 56
Bass River, Dennis and Yarmouth, jetties, dredging and survey	22,595 00	182,445 07
Beach Street, Scituate — See Scituate.		
Beverly Harbor, Beverly, dredging	—	50,000 00 ¹
Brant Rock, Marshfield, shore protection	111,503 66	229,665 64
Brewster, Skaket Inlet, survey	—	617 19
Bucks Creek, Chatham, jetties, survey and dredging	2,500 00	39,719 69
Buzzards Bay, Falmouth, survey	—	166 11
Cape Cod Canal Pier, Bourne, construction	—	258,362 67
Cape Cod Canal Pier, Bourne, operation and maintenance	—	2,135 46
Cape Poge, Edgartown, cut through beach, jetties and riprap	16,500 00	42,905 09
Cataumet Harbor — See Megansett Harbor.		
Cedar Point, Scituate — See Scituate.		
Centerville River, Barnstable, dredging	19,711 50	44,329 77
Chatham, riprap and surveys	10,500 00	19,813 19
Cohasset Harbor, Cohasset, breakwater and dredging	42,691 88	116,191 93
Concord River, Billerica, removing boulders	150 00	1,664 59

¹ Expended by United States Government.

<i>Location and Character of Work</i>	Contributions by	
	Municipality or Others	Total Expenditure
Connecticut River, investigation of navigation and surveys	—	8,878 96
Connecticut River, Agawam, protective work	—	18,814 42
Connecticut River, Chicopee, survey, wall and riprap	640 00	25,789 02
Connecticut River, Hadley, diversion wall and riprap	7,000 00	121,955 04 ²
Connecticut River, Hatfield, dikes and riprap	1,000 00	51,311 52
Connecticut River, Holyoke, dredging and protective work	1,991 29	9,253 27
Connecticut River, Holyoke, marking and lighting old piers	—	1,195 32
Connecticut River, Northampton, riprap	—	1,524 20
Connecticut River, Northfield, riprap	—	9,028 90
Connecticut River, South Hadley, wall	1,000 00	7,379 58
Connecticut River, Springfield and West Springfield, protective work	—	12,510 08 ³
Conservation of Waters, investigation	—	84,764 54
Cotuit Harbor, Barnstable, dredging, survey and bulkhead repairs	13,183 38	83,504 82
Cuttyhunk Harbor, Gosnold, jetties and dredging	10,000 00	83,935 78
Deacons Pond Harbor — See Falmouth Inner Harbor		
Dennisport, stone jetty	600 00	884 95
Duxbury Bay and Harbor, dredging	27,000 00	92,653 35
East Bay, Osterville, jetties, dredging and removing scows	10,000 00	70,969 75
Edgartown Harbor, Edgartown, survey and cut in beach	300 00	3,496 64
Ellisville Harbor, Plymouth, dredging and jetty repairs	—	20,673 58
Essex County Beaches, survey	—	1,000 00
Essex River, Essex, dredging	—	76,304 33 ⁴
Fall River Harbor, improvement	—	1,130 18
Falmouth Heights, Falmouth, sea wall and riprap	22,210 04	70,667 71
Falmouth Inner Harbor, dredging, jetties, wall and riprap	33,500 00	154,279 63
Falmouth, Menauhant Shore, bulkheads, jetties and riprap	3,100 00	6,075 33
First and Second Cliffs, Scituate — see Scituate		
Fresh Water Cove, Gloucester, dredging	3,300 00	17,477 53
Gay Head, survey	—	555 42
Geological Survey Trust Fund	3,000 00	3,000 00
Glades, North Scituate — See Scituate.		
Gloucester Fish Pier	—	396 91
Gloucester, Western Avenue, sea wall	35,000 00	60,000 00
Gloucester Harbor, Gloucester, dredging and removing ledges	15,000 00	148,802 79

² From 1888 inclusive.³ From 1891 inclusive.⁴ \$5,000 expended by United States Government.

<i>Location and Character of Work</i>	<i>Contributions by Municipality or Others</i>	<i>Total Expenditure</i>
Great Head, Winthrop — See Winthrop Shore		
Great Ponds, survey	—	29,029 71
Green Harbor, Marshfield, jetties, dredging and survey	42,500 00	167,238 38
Gun Rock Point, Hull, breakwater and sea wall repairs	16,135 41	77,939 33
Harbor Cove, Gloucester, survey and dredging	3,866 00	25,155 04
Harwich Beach, Harwich, shore protection	4,000 00	197 18
Harwich Shore, near Chatham Line, stone jetty	350 00	1,206 75
Herring Creek, Scituate, survey	—	253 76
Herring River, Harwich, jetties, dredging and riprap	36,400 00	134,720 58
Herring River, Wellfleet, dikes and ditches	10,000 00	39,320 50
Hoosac River, North Adams, excavation and survey	—	21,271 67
Housatonic River, Sheffield, survey	—	2,011 29
Hull, sea wall and jetties	8,882 06	42,093 96
Humarock Beach, Scituate — See Scituate.		
Hyannis Harbor, bulkhead and dredging	21,750 00	40,494 50
Hyannisport, Barnstable, survey and breakwater	2,500 00	65,017 76
Improvement of Rivers and Harbors, general expenses	—	55,494 21
Ipswich River, Ipswich, jetty, wall, riprap and dredging	3,800 00	60,087 07
Kings Beach, Swampscott, removal of obstruction	—	166 41
Lagoon Pond, Tisbury and Oak Bluffs, dredging and jetty	13,500 00	25,855 90
Lake Anthony, Oak Bluffs, jetties and dredging	16,000 00	98,261 74
Lake Quannapowitt, Wakefield, investigation	—	345 32
Lake Tashmoo, Tisbury, survey	—	432 88
Lewis Bay, Barnstable, survey and dredging	18,809 29	66,874 33
Little Harbor, Cohasset, survey	500 00	1,476 77
Little Harbor, Marblehead, dredging	2,500 00	11,166 16
Little River, Gloucester, survey	—	862 93
Lobster Cove, Gloucester, dredging	4,500 00	61,603 36
Long Beach, Rockport, sea wall	27,700 00	57,306 56
Lynn Harbor, Lynn, anchorage basin, survey and dredging	5,200 00	121,609 22
Lynn Harbor and Saugus River, dredging and filling	37,500 00	165,527 54
Manchester Harbor, Manchester, survey, jetties and dredging	83,000 00	189,838 88
Marshfield-Duxbury, survey	—	358 61
Mattapoisett Harbor, survey	—	255 48
Megansett Harbor, Bourne and Falmouth, dredging	12,730 00	52,116 66
Menamsha Inlet, Chilmark and Gay Head, jetties, dredging, sea wall and riprap	2,700 00	130,243 43
Merrimack River, investigation	—	1,208 50

<i>Location and Character of Work</i>	Contributions by	Total Expenditure
	Municipality or Others	
Mill River, Gloucester, survey and dredging	300 00	24,899 59
Mitchells River, Chatham, survey and dredging	6,000 00	23,113 92
Monument Beach, Bourne, survey	—	326 40
Nahant, survey and riprap	15,000 00	2,378 43
Namequoit River and Pleasant Bay, dredging	5,500 00	30,390 65
Nantucket, survey of Sesachacha Pond	—	110 66
Nantucket Harbor, dredging	5,000 00	58,982 52
Nauset Harbor and Town Cove, Orleans, dredging	2,000 00	10,671 24
New Bedford Harbor, dredging	—	18,856 57
New Bedford State Pier, pier shed and dredging	13,446 74 ^s	558,593 16
New Bedford State Pier, operation and maintenance	—	73,528 29
Newburyport Harbor, survey	—	115 97
Nobscussett Harbor, Dennis, breakwater, dredging, riprap and jetties	3,150 00	41,818 94
North River, Marshfield, survey and removing rocks	1,800 00	8,658 75
North River, Salem, survey	—	704 52
North Scituate — See Scituate.		
Oak Bluffs, removing rocks	—	594 95
Oak Bluffs, sea walls, bulkhead and jetties	54,000 00	148,675 58
Ocean Grove, Swansea, survey	—	143 23
Onset Bay, Wareham, survey and dredging	1,000 00	15,553 00
Orleans, survey	—	104 18
Palmers Pond, Falmouth, survey	—	358 76
Pamet River, Truro, survey, dredging and repairing jetties	1,200 00	198,010 32
Paskamansett River, Dartmouth, dredging and jetty	—	5,227 68
Penikese Island, Gosnold, pile wharf and survey	—	5,192 95
Pines River, Revere and Saugus, survey	—	904 80
Pleasant Bay, Chatham, dredging	600 00	2,364 33
Plum Island River, Newbury and Newburyport, survey	—	983 31
Plymouth Harbor, dredging and removing old piling	92,794 55 ^a	324,565 02
Plymouth Memorial Park, maintenance	—	48,056 48
Point Shirley, Winthrop — See Winthrop Shore		
Poponessett Bay, Barnstable and Mashpee, dredging	—	46,252 33
Powow River, Amesbury, dredging channel and riprapping wall	—	502 94
Province Lands, Provincetown, reclamation	—	166,634 58
Provincetown Harbor, shore protection	75 00	28,730 81
Quamisset Harbor, Falmouth, survey	—	710 31
Quansett Harbor, Orleans, survey and dredging	500 00	2,194 50
Red Brook Harbor, Bourne, removing pier	—	275 00
Revere, stone breakwater	—	60,397 93

^s Paid by Surety Company^a \$57,000 expended under direction of United States Government.

<i>Location and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Rock Harbor, Orleans, dredging	2,400 00	20,832 51
Rockport Harbor, Rockport, dredging and removing rocks	4,750 00	32,897 46
Sagamore Beach, Bourne	—	78 85
Salem Harbor, Salem, survey	—	1,509 92
Salisbury Beach, survey	—	4,754 27
Salt Pond River, Eastham, survey	—	210 11
Salters Point, Dartmouth, breakwater	4,500 00	42,939 57
Sand Hills Scituate — See Scituate.		
Sandwich Harbor, Sandwich, dredging channel, riprap and jetties	—	80,579 84
Saugus River, Lynn and Saugus, survey and dredging	2,000 00	20,845 17
Scituate, shore protection	75,000 00	
Beach Street, Scituate, wall and break- water	17,333 52	34,782 50
Cedar Point, Scituate, wall and break- water	21,446 64	41,298 70
First and Second Cliffs, Scituate, wall and riprap	2,797 92	19,553 12
Glades, North Scituate, filling and rip- rap	13,250 78	38,751 42
Humarock Beach, Scituate, survey, wall and jetties	37,816 38	83,583 74
North Scituate, Surfside, sea wall, jet- ties and riprap	2,194 68	33,144 84
Sand Hills, Scituate, wall and jetties	4,511 26	34,031 13
Third Cliff, Scituate, riprap and survey	75,193 10	134,770 21
General surveys at Scituate	—	543 73
Shore Acres, Scituate, riprap	—	12,913 13
Sand Hills to Shore Acres, Scituate, sea wall, jetties and riprap	—	17,626 47
Scituate Harbor, dredging and surveys	53,300 00	206,011 94
Scorton Harbor, Sandwich, jetty and dredg- ing	500 00	17,774 34
Seapuit River, Barnstable, dredging	13,000 00	25,088 55
Sengekontacket Pond, Oak Bluffs, survey	—	104 28
Sesuit Harbor, Dennis, jetty	1,500 00	24,555 10
Shirley Gut, survey	—	201 06
Singing Beach, Manchester, survey	—	81 80
Sippican Harbor, Marion, survey	—	615 66
Smiths Cove, Gloucester, survey and dredging	3,875 00	13,466 16
South Harwich, stone jetties and riprap	2,500 00	3,701 31
South River, Marshfield and Scituate, sur- vey	—	724 85
South River, Salem, dredging	3,000 00	13,462 66
South Watuppa Pond, Fall River, fenders and excavation	—	203 42
Stage Harbor, Chatham, dikes and survey	—	11,792 15
Steam Gauging — See Conservation of Waters		
Swampscott, survey	—	103 46
Taunton-Brockton, waterway investigation	—	5,278 18
Taunton River, survey and dredging	42,500 00	31,561 95

<i>Location and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Taunton River-Boston Harbor Canal, survey	—	9,932 75
Taunton River-Massachusetts Bay Canal, survey	—	11,786 71
Truro Beach, survey	—	71 74
Vineyard Haven Harbor, Tisbury, breakwater and dredging	1,000 00	45,518 25
Vineyard Haven Harbor, repairing sea wall	2,380 50	11,945 01
Waquoit Bay, Falmouth, breakwater, wall, bulkhead and dredging	17,500 00	98,438 91
Wareham River, Wareham, survey and dredging	5,000 00	42,567 93
Warrens Cove, Plymouth, sea wall and survey	15,213 98	34,241 86
Watch Hill, Chatham, survey and riprap	—	14,968 75
Water Conservation — See Conservation of Water		
Wellfleet Harbor, Wellfleet, survey and dredging	1,500 00	17,600 29
West Bay, Barnstable and Osterville, dredging, jetties and riprap	16,128 07	114,607 52
West Chop, Tisbury, stone jetties	2,500 00	5,116 07
West Dennis Beach, stone jetty	750 00	55 85
West Falmouth Harbor, Falmouth, surveys, dredging and breakwater	11,473 75	63,520 95
West Harwich Beach, Harwich, shore protection	6,000 00	26,717 00
Western Avenue sea wall, Gloucester — see under Gloucester		
Westfield River, Westfield, survey and jetties	—	6,037 29
Westport Harbor, Westport, jetty extension and repairs	—	21,928 88
Wild Harbor, Falmouth — jetty and dredging	15,000 00	55,128 66
Winthrop Shore, Winthrop, sea walls and protective work	65,500 00	208,861 53
Witchmere Harbor, Harwich, jetties and dredging	6,000 00	69,942 75
Woods Hole, Great Harbor, Falmouth, dredging	1,500 00	6,968 86
Wrecks, removal from tide water	—	20,283 69
Yarmouthport Harbor, survey	7,000 00	95,977 37
	<hr/> \$1,644,194 63	<hr/> \$8,396,959 26

FEDERAL APPROPRIATIONS AND EXPENDITURES

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the close of the fiscal year ending June 30, 1933, are shown in the following tables furnished by the Chief of Engineers, U. S. Army:—

TABLE NO. 1. — *Localities at Present Under Improvement*

(Compiled from the Annual report of the Chief of Engineers, U. S. Army, for the fiscal year ending June 30, 1933)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Newburyport Harbor	\$506,298 13	\$506,748 13
Gloucester Harbor	545,575 63	545,575 63
Lynn Harbor	782,017 25	790,775 89
Boston Harbor	13,594,731 57	13,765,265 10
Plymouth Harbor	421,184 80	421,184 80***
Cape Cod Canal	12,466,263 56	12,851,195 56
Operating and Care, Cape Cod Canal	1,286,217 78	1,300,755 28
Pollock Rip Shoals	1,367,037 25	1,318,074 66
Cross Rip Shoals, Nantucket Sound	34,822 14	41,967 20
New Bedford and Fairhaven Harbor	1,327,418 91	1,337,848 53
Fall River Harbor	778,626 35	819,282 69
Taunton River	323,484 50	429,775 86
Total	\$33,433,677 87	\$34,128,449 33

***Exclusive of \$108,400 contributed funds.

TABLE NO. 2. — *Localities in Which Work is Not Now in Progress*

(Compiled from data furnished by the United States Treasury Department and the Chief of Engineers, U. S. Army)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Merrimack River	\$404,466 72	\$404,466 72
Malden River	149,950 00	149,950 00****
Sandy Bay, Cape Ann, Harbor of Refuge	1,941,478 00	1,941,478 00
Bass River	20,150 34	20,150 41
Buzzards Bay Harbor	2,500 00	2,500 00
Canapitset Channel	5,312 54	9,800 00
Chatham Harbor	12,171 36	13,732 79
Cohasset Harbor	10,000 00	10,000 00
Duxbury Harbor	37,000 00	37,000 00
East Dennis Breakwater	7 57	1,500 00
Edgartown Harbor	25,000 00	25,000 00
Essex River	30,000 00	30,000 00
Hingham Harbor	38,316 58	38,316 58
Hyannis Harbor	221,267 07	221,267 07
Ipswich River	5,617 91	5,617 91
Kingston Harbor	8,940 09	10,000 00
Little Harbor, Woods Hole	18,000 00	18,000 00
Manchester Harbor	23,985 57	23,985 57
Marblehead Harbor	833 42	1,900 00
Martha's Vineyard (Edgartown Harbor)	30,000 00	30,000 00
Powow River	50,940 72	51,000 00
Rockport Harbor	91,229 25	91,229 25
Town River	37,577 41	37,557 41
Vineyard Haven Harbor	55,387 35	55,387 35
Wareham Harbor	95,997 30	96,236 00
Wellfleet Harbor	11,365 57	16,000 00
Westport Harbor and River	3,000 00	3,000 00
Winthrop Harbor	9,000 00	9,000 00
Woods Hole Channel	343,599 92	344,000 00

****Exclusive of \$ 62,000 contributed funds.

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Beverly Harbor	246,690 41	246,690 41*
Salem Harbor	107,956 57	107,956 57
Mystic River	306,684 84	306,684 84
Dorchester Bay and Neponset River .	128,176 44	128,176 44
Weymouth Fore River	641,150 00	641,150 00**
Weymouth Back River	27,000 00	27,000 00
Scituate Harbor	126,590 98	126,590 98
Provincetown Harbor	348,062 72	348,062 72
Harbor of Refuge at Nantucket . .	694,582 83	694,582 83
Total	\$6,309,989 48	\$6,324,989 85

*Exclusive of \$100,000 contributed funds

**Exclusive of \$100,000 contributed funds

RECAPITULATION

	<i>Expenditures</i>	<i>Appropriations</i>
Total of Table No. 1	\$33,433,677 87	\$34,128,449 33
Total of Table No. 2	6,309,989 48	6,324,989 85
	\$39,743,667 35	\$40,453,439 18

EXPENDITURES ON BOSTON HARBOR AND ITS TRIBUTARIES TO JUNE 30, 1933

(The tributaries given are those now under improvement and do not include tributaries heretofore improved.)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Boston Harbor proper*	\$13,480,743 04	\$13,527,362 58

* Including Chelsea Creek.

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
269	Lagoon Pond—Oak Bluffs and Tisbury, — dredging and jetty.	Merritt-Chapman & Scott Corporation.	Aug. 23, 1932
312	Cape Cod Canal, Bourne, — construction landing pier and dredging.	Merritt-Chapman & Scott Corporation	Apr. 26, 1932
325	Hyannis Harbor, Lewis Bay, Barnstable, — timber bulkhead.	Thomas Whalen & Sons, Inc. .	June 28, 1932
330	Hyannis Harbor, Lewis Bay, Barnstable, — dredging.	Saybrook Dredging Company .	Aug. 9, 1932
332	West Chop, Tisbury, — shore protection by stone jetties.	Joseph W. Nickerson . . .	Aug. 16, 1932
335	Brant Rock, Marshfield sea wall . . .	A. Piatelli & Company. . .	Sept. 27, 1932
340	Gun Rock-Green Hill, Hull, — sea wall repairs.	Thomas Whalen & Sons, Inc.	Oct. 25, 1932
341	Warrens Cove, Plymouth, — repairs to sea wall, riprap and jetties.	A. K. Finney	May 16, 1933
342	West Harwich Beach, — stone jetty. . .	Sidney W. Lawrence	Nov. 9, 1932
343	Oak Bluffs — repairs to concrete sea wall	Merritt-Chapman & Scott Corporation	Nov. 29, 1932
344	Green Harbor, Marshfield, — riprap. .	Thomas Whalen & Sons, Inc. .	Dec. 27, 1932
345	Herring River, Harwich, — filling at property of Charles E. LeBuff.	Arthur K. Finney	Feb. 7, 1933
346	Allens Harbor, Harwich, — repairing jetties.	Joseph W. Nickerson	Mar. 14, 1933
348	Pleasant Bay, Orleans shore. . . .	Joseph W. Nickerson	June 27, 1933
349	Long Beach, Rockport, — riprap. . .	Thomas Whalen & Sons, Inc. .	Apr. 25, 1933
350	Boston Harbor, — removal of hulks. .	Bay State Dredging & Contracting Company	Apr. 4, 1933
351	Boston Harbor, — removal of hulks..	Roy B. Rendle & Company, Inc. .	Apr. 18, 1933
352	Warren's Cove, Plymouth sea wall and jetties.	Tocci Bros.	Apr. 25, 1933
353	Boston Harbor, — removal of hulks..	The Rendle Corporation . . .	Apr. 25, 1933
354	Cape Cod Canal Pier, — retaining wall, stairs, ramp, etc.	Pasquale Construction Company, Inc.	May 2, 1933

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1933

Condition of Work	Contract Prices	Amount paid during year ending Nov. 30 1933	Total paid to Nov. 30, 1933	Estimated amount of contract
Completed Dec. 21, 1932	For dredging and disposing of dredged material on marsh and flats by hydraulic process, including the construction of necessary dikes and sluices, 35 cents for each cubic yard measured in place. For removing and disposing of all boulders \$25. for each cubic yard.	\$ 8,983 78	\$ 24,101 16	\$ 23,770 00
Completed Mar. 25, 1933	For each ton of riprap or stone chips furnished and placed in completed work, \$3.23.	59,349 05	215,450 95	200,618 00
Completed Dec. 10, 1932	Unit prices	2,607 10	10,699 10	10,710 00
Completed May 13, 1933	For each linear foot of creosoted timber bulkhead constructed in place, \$11.90.	23,766 08	23,766 08	21,534 60
Completed Dec. 7, 1932	For dredging and disposing of dredged material on marsh, flats and behind the bulkhead, by the hydraulic process, or other means, including the construction of necessary dikes, sluices and spillways and incidental work, \$.1889 for each cubic yard measured in place.	1,297 01	4,175 48	2,095 00
Completed Jan. 2, 1933	For removing and disposing of all boulders, \$10. per cubic yard.	5,012 09	8,643 15	6,650 00
Completed Dec. 29, 1932	For furnishing and placing heavy stone riprap and granite chips in jetties, the sum of \$4.19 for each ton of 2000 pounds.	1,095 22	1,095 22	896 50
In progress	For furnishing material and constructing concrete sea wall, including all incidental work, \$6.65 for each cubic yard of concrete measured in place in the completed work.	2,351 44	2,351 44	8,044 00
Completed Dec. 17, 1932	For each cubic yard of concrete in place in the completed work, \$8.15.	714 43	714 43	530 40
Completed Jan. 16, 1933	For each ton of stone riprap or chips in place in completed work, \$1.82.	2,259 65	2,259 65	2,002 50
Completed Feb. 25, 1933	For each cubic yard of concrete in place in concrete walls, jetties or footings, \$8.00.	1,341 43	1,341 43	1,128 00
Completed April 6, 1933	For each ton of stone riprap furnished in place in the completed work \$3.12.	572 00	572 00	572 00
Completed May 17, 1933	For furnishing material and constructing concrete sea wall, including excavation, backfill and all incidental work, \$13. for each cubic yard of concrete measured in place in completed work.	11,847 13	11,847 13	9,570 00
Completed July 28, 1933	For each ton of stone riprap furnished in place in completed work, \$3.75.	1,747 41	1,747 41	1,490 00
Completed June 2, 1933	For each ton of stone riprap or chips furnished in place in the completed work, including all excavation, backfilling and incidental work, the sum of \$1.88.	3,134 74	3,134 74	2,860 00
Completed Apr. 17, 1933	For furnishing and placing sand fill, including all incidental work, the lump sum of \$572.	2,700 00	2,700 00	2,700 00
Completed June 19, 1933	For each ton of riprap or stone chips furnished and placed in completed work, including all incidental work, \$3.19.	4,400 00	4,400 00	4,400 00
Completed July 12, 1933	For each ton of stone riprap furnished in place in completed work, including all excavation, back filling and incidental work, \$2.98.	5,170 94	5,170 94	4,675 00
Completed June 29, 1933	For removal and disposal of hulks from Boston Harbor, Mystic River and Winthrop Harbor, as specified, the lump sum of \$2700.	2,200 00	2,200 00	2,200 00
	For removal and disposal of hulks as specified from property of Boston Port Development Co., Condor St., East Boston, the lump sum of \$3800.	1,737 75	1,737 75	1,663 25
	For pulling and disposing of piles as specified on property of Boston Port Development Co., Condor St., East Boston, the lump sum of \$600.			
	For furnishing material and constructing concrete sea wall, including all excavation, backfilling, removing old walls and all incidental work, the sum of \$8.50 for each cubic yard of concrete measured in the completed work.			
	For furnishing materials and constructing five concrete jetties, including all excavation, back filling and all incidental work, the sum of \$8.50 for each cubic yard of concrete measured in the completed jetties.			
	For removal and disposal of hulks specified from Chelsea Creek, the lump sum of \$1800.			
	Unit prices			

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CONTRACT No.	Work	Contractor	Date
355	Witchmere Harbor, — Harwich — dredging	Saybrook Dredging Company.	Apr. 25, 1933
356	Brant Rock, Marshfield, — concrete sea wall.	Corsetti and Arcese Co..	June 6, 1933
357	Dolphin A on Bird Island Anchorage Basin	M. & R. Construction Company	June 13, 1933
358	Commonwealth Pier 5 — repairs to pile platform.	A. A. Hersey & Son Co.	June 6, 1933
359	New Bedford State Pier, — dredging docks and approaches.	J. S. Packard Dredging Company	July 5, 1933
360	Cape Cod Canal Pier, — moveable gangways.	Waghorne-Brown Company	June 6, 1933
361	Winthrop Breakwater.	Merritt-Chapman & Scott Corporation	June 27, 1933
362	Cape Cod Canal Pier, — building	Durso Construction Company	June 6, 1933
363	Wollaston Dredging.	Bay State Dredging & Contracting Company	June 6, 1933
364	Commonwealth Pier 5, — dredging east berth.	Bay State Dredging & Contracting Company	Sept. 26, 1933
365	Cuttyhunk Harbor, — Gosnold.	The Saybrook Dredging Company.	June 27, 1933
366	Cape Cod Canal Pier, — electric lighting	Mass. Electric Construction Co.	July 25, 1933
367	Chelsea Creek, East Boston, — removal of hulks.	John Forward	Aug. 1, 1933
368	Dennis, — stone jetty at Dennisport.	Sidney W. Lawrence	Aug. 15, 1933
369	Shore Acres, Scituate, — riprap protection.	Henry N. Worthington	Sept. 5, 1933
370	Glades Sea Wall, — Scituate.	Thomas Whalen & Sons, Inc.	Oct. 4, 1933

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1933

Condition of Work	Contract Prices	Amount paid during year ending Nov. 30 1933	Total paid to Nov. 30, 1933	Estimated amount of contract
Completed June 29, 1933	For dredging and disposing of excavated material on marsh and flats by the hydraulic process, including the construction of necessary dikes and sluices, 56 cents for each cubic yard measured in place.	5,888 79	5,888 79	4,888 80
Completed Aug. 30, 1933	For furnishing material and constructing concrete sea wall, \$7.32 per cubic yard of concrete measured in completed work.	6,523 10	6,523 10	5,916 72
	For furnishing material and constructing reinforced concrete footing, \$8. per cubic yard of reinforced concrete measured in completed work.			
	For furnishing material and constructing concrete cap, backing and steel dowels, \$8.60 for each cubic yard of reinforced concrete in the completed work.			
	For each cubic yard of filling material furnished, delivered and measured in place in the completed work, \$4.40 per cubic yard.	6,523 10	6,523 10	5,916 72
Completed July 26, 1933	For furnishing dolphin complete, including all incidental work, \$175.	175 00	175 00	175 00
In progress	Unit prices	3,034 40	3,034 40	2,195 00
Completed Oct. 2, 1933	For dredging and disposing of dredged material 48 cents per cubic yard, scow measurement.	6,999 96	6,999 96	9,620 00
	For removing and disposing of boulders \$20. per cubic yard.			
Completed Aug. 31, 1933	For furnishing and erecting in place at Cape Cod Canal Pier two gangways complete and ready to operate, including all incidental work, the lump sum of \$2645.	2,820 00	2,820 00	2,645 00
Completed Nov. 30, 1933	For each ton of stone riprap furnished in place in the completed work, including all incidental work, \$2.22.	109,446 00	109,446 00	111,000 00
In progress	For the construction of building complete, including foundations, floors, outside platforms, plumbing, drains, cistern with allowances as specified, and all incidental work, the lump sum of \$21,378.	18,536 99	18,536 99	21,378 00
	For the substitution of 4-inch tile backing in side walls in place of 8-inch tile, as specified deduct \$378.			
	For omission of all plumbing fixtures, water pump and tank and all plumbing above floor level, deduct \$700.			
	For omission of floor specified in main shed, deduct \$1,000.			
Completed July 11, 1933	For dredging channel and basin and disposing of dredged material, 38 cents per cubic yard, scow measurement.	11,893 62	11,893 62	11,790 00
	For removing and disposing of all boulders \$10. for each cubic yard.			
In progress	For dredging and disposing of dredged material, 43 cents per cubic yard, scow measurement.	3,483 95	3,483 95	13,780 00
	For removing and disposing of boulders, \$20. per cubic yard.			
Completed Sept. 9, 1933	For dredging and disposing of excavated material on shore by hydraulic process, including construction of all necessary dikes and sluices, 28.8 cents for each cubic yard measured in situ.	9,160 70	9,160 70	9,000 00
	For removing and disposing of all boulders, \$10. for each cubic yard.			
Completed Oct. 24, 1933	For furnishing and installing complete, electric service as specified, \$1239.	1,098 30	1,098 30	1,239 00
In progress	For removal and disposal of steel hulk "Yankton", \$500.	2,465 00	2,465 00	3,400 00
	For removal and disposal of all hulks, wrecks, etc., as specified except steel hulk "Yankton", \$2900.			
Completed Oct. 14, 1933	For furnishing and placing stone riprap and granite chips in the jetty, \$3.12 for each ton of 2000 pounds.	856 60	856 60	936 00
Completed Nov. 11, 1933	For each ton of heavy stone riprap and chips furnished in place in the completed work, \$1.38.	3,838 40	3,838 40	6,900 00
Completed Nov. 24, 1933	For furnishing material and constructing reinforced cap and face of wall, \$10. for each cubic yard of concrete measured in completed work.	7,500 89	7,500 89	6,900 00
	For furnishing stone riprap and depositing it in place along concrete wall, \$1.65 per ton furnished and in place in completed work.			
	For removing and disposing of about 128 feet of old concrete wall, the lump sum of \$150.			

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
371	Commonwealth Pier 5, — Boston, — removal of wall and erection of fence on observation platform.	Waghorne-Brown Co. . . .	Sept. 13, 1933
372	Commonwealth Pier 5, — Boston, — alterations to moveable gangway.	Waghorne-Brown Co. . . .	Sept. 13, 1933
373	Falmouth Inner Harbor, — dredging.	Bay State Dredging & Contracting Co.	Sept. 5, 1933
374	Oak Bluffs, — concrete footing under sea wall north of steamboat wharf.	Pasquale Construction Company, Inc.	Sept. 5, 1933
375	Boston Harbor, — removal of hulks westerly of harbor.	M. & R. Construction Company	Aug. 29, 1933
376	Shore Acres, Scituate, — sea wall of concrete, jetties and riprap.	Thomas H. Hannaford . . .	Sept. 12, 1933
377	Third Cliff, Scituate, — stone riprap.	Raymond A. Bergesson . . .	Sept. 5, 1933
378	Scituate, Shore Acres, — concrete sea wall and stone riprap.	A. K. Finney	Sept. 5, 1933
379	Lake Anthony, Oak Bluffs, stone riprap.	Joseph W. Nickerson	Sept. 19, 1933
380	Nobscusset Harbor, Dennis, — stone jetties westerly of harbor.	Sidney W. Lawrence	Sept. 19, 1933
381	Pleasant Park Channel, Winthrop, — dredging.	Bay State Dredging & Contracting Co.	Nov. 28, 1933
382	Boston Harbor, — dredging adjacent to Pier 1 of N.Y., N.H.&H.R.R. Co. . . .	Bay State Dredging & Contracting Co.	Sept. 26, 1933
383	Nahant Shore, Nahant, — riprap protection	M. McDonough Co.	Oct. 10, 1933
384	Commonwealth Pier 5, — painting exterior steel work.	Louis P. Steensen	Sept. 20, 1933
385	Mystic River, — dredging above Malden Bridge.	Bay State Dredging & Contracting Co.	Oct. 10, 1933
386	West Dennis Beach, — stone jetty. . . .	Sidney W. Lawrence	Nov. 28, 1933
387	Commonwealth Pier 5, — installation of steel sash, replacement of glass, and repairs to sash.	Maurice M. Devine	Nov. 23, 1933
390	East Boston Pier 1, — steel sliding cargo doors.	Waghorne-Brown Company . . .	Nov. 28, 1933
392	Commonwealth Pier 1, — East Boston, — repairs to platforms and shed.	Murray Engineering Company . .	Nov. 28, 1933
393	New Bedford State Pier, — repairs to plaster walls and doorways and new windows and doors.	National Gunite Contracting Co. .	Nov. 28, 1933

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1933

Condition of Work	Contract Prices	Amount paid during year ending Nov. 30 1933	Total paid to Nov. 30, 1933	Estimated amount of contract
Completed Nov. 10, 1933	Lump sum of \$322.	273.70	273 70	322 00
Completed Nov. 10, 1933	Lump sum of \$1044.	887 40	887 40	1044 00
Completed Oct. 4, 1933	For dredging entrance channel and disposing of dredged material 47 cents per cubic yard, scow measurement.	3,611 48	3,611 48	3,592 00
	For removing and disposing of boulders \$20. per cubic yard.			
Completed Oct. 11, 1933	For furnishing material and constructing concrete footing \$23. for each cubic yard of concrete measured in place in the completed work.	1,139 18	1,139 18	690 00
In progress	Lump sum of \$1495.	1,016 60	1,016 60	1,495 00
In progress	For furnishing material and constructing concrete sea wall and jetties, \$7.79 for each cubic yard of concrete measured in completed work.	16,633 35	16,633 35	31,940 40
	For furnishing and placing heavy stone riprap for apron \$2.243. for each ton in completed work.			
In progress	For each ton of riprap or stone chips furnished and placed in the completed work, \$1.90.	6,460 00	6 460 00	6,650 00
In progress	For furnishing material and constructing the concrete sea wall, including all excavation, backfilling forms and removing old bulkhead, including all incidental work the sum of \$7.82 for each cubic yard of concrete measured in the completed work.	8,069 46	8,069 46	14,936 80
	For furnishing and placing heavy stone riprap for apron including excavation, backfilling, chinking including all incidental work, the sum of \$1.92 for each ton of heavy stone riprap in the completed work.			
Completed Oct. 24, 1933	For each ton of stone riprap furnished in place in completed work, \$2.98.	773 35	773 35	894 00
In progress	For each ton of stone riprap furnished in place in completed work, \$3.10.			2,170 00
In progress	For dredging and disposing of dredged material 38 cents per cubic yard, scow measurement.			9,900 00
	For removing and disposing of boulders, \$20. per cubic yard.			
In progress	For dredging and disposing of dredged material 37 cents per cubic yard, scow measurement.	21,462 42	21,462 42	18,520 00
	For removing and disposing of boulders \$20. per cubic yard.			
In progress	For each ton of stone riprap furnished in place in the completed work, \$1.18.	1,995 97	1,995 97	16,520 00
In progress	For furnishing all labor, paint, materials and equipment and doing all cleaning and painting, the lump sum of \$1720.			1,720 00
In progress	For dredging area and disposing of dredged material, 41 cents per cubic yard, scow measurement.			9,860 00
	For removing and disposing of boulders \$20. per cubic yard.			
In progress	For furnishing and placing stone riprap and granite chips in the jetty \$3.10 per ton.			1,193 50
In progress	Unit prices			9,181 25
Not yet begun	For each steel sliding door furnished and erected, including all incidental work, \$143.37.			2,293 92
Not yet begun	Unit prices			1,440 00
Not yet begun	For removing existing plaster wall on north side of pier and replacing with gunite, the lump sum of \$1460.			2,625 00
	For placing new gunite surface on exposed face of elevator shaft, and on inner and outer corners of steel shed, the lump sum of \$615.			
	For furnishing and erecting two steel sash, the lump sum of \$50.			
	For furnishing and erecting 3 doors, complete and ready to operate, the sum of \$500.			

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The Commonwealth of Massachusetts

FIFTEENTH ANNUAL REPORT

OF THE

DEPARTMENT OF PUBLIC WORKS

YEAR ENDING NOVEMBER 30, 1934

*To the Honorable Senate and House of Representatives of the
Commonwealth of Massachusetts*

In accordance with the provisions of law, I have the honor, as Commissioner of Public Works, to submit the fifteenth annual report of the Department of Public Works for the year ending November 30, 1934.

The organization of the Department as defined in Chapter 16, General Laws, as amended by chapter 297, Acts of 1927, was as follows:

Commissioner of Public Works, FRANK E. LYMAN.

Associate Commissioner, RICHARD K. HALE.

Associate Commissioner, HERMAN A. MACDONALD, to January 24, 1934.

Associate Commissioner, WILLIAM F. CALLAHAN, from February 6, 1934.

Office Building. The new office building to accommodate the various offices of the Department, now houses the main and Engineering offices of the Department and the Registry of Motor Vehicles occupying in total the equivalent of seven floors and basement. In accordance with the Act, Chapter 122, Acts of 1931, authorizing the construction of this building, the space not immediately required by the Department has been assigned to other State Departments by the State Superintendent of Buildings, with the approval of the Governor and Council. The other departments now located in the building include the following: the Massachusetts Nautical School; the Public Employment Service of the Department of Labor and Industries; the Teachers' Retirement Board of the Department of Education; the Division of Insurance, of the Department of Banking and Insurance; the Department of Public Utilities and the Division of Smoke Abatement of the same department; and the Division of Adult Hygiene of the Department of Public Health.

Summary of Highways Constructed. The mileage of new State highways laid out during the year amounted to 29.53 miles, but there were abandoned or discontinued 1.33 miles of State highways, so that the net mileage of State highways amounted to 1,852.26 miles at the end of the fiscal year, November 30, 1934.

The Department has constructed, reconstructed and widened 85.041 miles of State highways and built 156.648 miles of roads in cooperation with cities, towns and counties under the provisions of chapter 90, General Laws, and, in addition has constructed 62.902 miles of highways under the provisions of Special Acts. Under the provisions of section 26, chapter 81, General Laws, the Department has had charge of the repair and maintenance of 8,830 miles of public ways, exclusive of State highways in 178 towns.

A number of outstanding projects were begun during the year as follows: At Newburyport, on the Newburyport Turnpike route, the construction of a State highway on new location and rigid frame bridges of concrete and steel under High and Washington Streets to provide for through traffic, the pavement consisting of three lanes of reinforced cement concrete on each side of a center reservation; the construction of about 15 miles of the new Concord Turnpike, a State highway, in the towns of Arlington, Belmont, Lexington, Lincoln and Concord, largely on new location, with a pavement of concrete providing for four lanes of traffic with bituminous shoulders; in Lowell and Tyngsborough the reconstruction of about 4 miles of State highway along the Pawtucket Boulevard; in Easton, Raynham and Taunton the reconstruction of more than 9 miles of State highway; construction begun on the new Fore River Bridge over the Weymouth Fore River in the City of Quincy and the Town of Weymouth, the total length of the bridge being 1,324 feet and the retaining wall approaches being 1,068 feet, providing for a reinforced concrete roadway 60 feet wide and a draw, with a 219-foot span, steel, two leaf rolling lift draw, with a clear river channel 175 feet in width; construction

begun on the new General Clarence R. Edwards bridge over Saugus River in the Cities of Lynn and Revere, providing for a roadway 60 feet wide and with a draw opening to give a clear channel width of 100 feet; the construction begun on the reconstruction of nearly 10 miles of the Mohawk Trail State highway in the Town of Charlemont; and the construction of the North Shore Road in Revere.

The engineering and clerical staff of the Department was as follows:

Chief Engineer, ARTHUR W. DEAN.

Highway Engineer (Projects), FRANKLIN C. PILLSBURY.

Highway Engineer (Construction), RAYMOND W. COBURN.

Highway Engineer (Maintenance), GEORGE H. DELANO.

Bridge Engineer, GEORGE E. HARKNESS.

District Highway Engineers:—

District No. 1, GEORGE A. CURTIS—Berkshire County and the Towns of Worthington, Middlefield and Huntington in Hampshire County, and the Towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2, H. D. PHILLIPS—Franklin, Hampshire and Hampden Counties, with the following exceptions: three towns in Hampshire County included in District No. 1 and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON—Worcester County and the Towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN—Middlesex County.

District No. 5, JAMES E. LAWRENCE—Essex and Suffolk counties.

District No. 6, H. O. PARKER, Norfolk and Bristol Counties.

District No. 7, H. C. HOLDEN—Plymouth, Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer, for Boston Harbor—JOHN N. FERGUSON.

District Waterways Engineer, for harbors and waterways outside Boston Harbor—FRANCIS L. SELLEW.

Secretary, MARY A. RILEY.

Financial Secretary, FRED FAIR.

Registry of Motor Vehicles

Registrar, MORGAN T. RYAN.

Deputy Registrar, ANTHONY A. BONZAGNI.

Assistant to the Registrar of Motor Vehicles, ALFRED W. DEVINE.

Chief Administrative Clerk, CHARLES R. GILLEY.

Chief Inspector of Motor Vehicles, ALBERT S. OLSSON.

A detailed report of the activities of the Department for the year is presented herewith.

FRANK E. LYMAN,
Commissioner of Public Works.

December 1, 1934.

SPECIAL REPORTS TO THE LEGISLATURE

The Department was authorized and directed by the Legislature to make certain investigations, and the reports thereon were made as follows:—

Costs and routes of proposed State Highways in or near the City of Fitchburg. Report made December 5, 1933, by the Department of Public Works, under Chapter 14, Resolves of 1933. (Senate 2 of 1934.)

The construction of a highway in the City of Quincy and the Town of Milton. Report made December 5, 1933, by the Department of Public Works, under Chapter 16, Resolves of 1933. (House 164 of 1934.)

Traffic conditions on or near the Newburyport Turnpike, so-called, and as to the abolition of the railroad grade crossing at State Street in the Town of Newbury. Report made December 4, 1933, by the Department of Public Works under Chapter 21 of the Resolves of 1933. (Senate 3 of 1934.)

Certain proposed traffic routes in the Metropolitan District. Report made by the Department of Public Works under Chapter 24, of the Resolves of 1933. (House 165 of 1934.)

The construction of a new State Highway in the Towns of Hopkinton, Upton, Northbridge, Sutton, Douglas and Webster. Report made December 4, 1933, by the Department of Public Works, under Chapter 31 of the Resolves of 1933. (House 163 of 1934.)

Reconstructing a bridge over Mystic River between the Cities of Boston and Chelsea. Report made December 1, 1933, by Special Commission established by Chapter 36 of 1933—Commissioner and Associate Commissioners of the Department of Public Works, the City Engineer of the City of Chelsea and the City Engineer of the City of Revere. (House 176 of 1934.)

Licensing contractors and builders and relative to certain matters relating to contracts for and the employment of persons on public works. Report made by a special Commission, including the Commissioner of Public Works, in accordance with Chapter 33 of the Resolves of 1933. (House 1250 of 1934.)

Taxation by the Town of Russell of the dam and other structures of the Cobble Mountain Development. Report made December 6, 1933, under the provisions of Chapter 11 of the Resolves of 1933, by a Special Commission including the Chief Engineer of the Department of Public Works. (Senate 35 of 1934.)

RECOMMENDATIONS FOR LEGISLATION

The Commissioner of Public Works presented to the State Secretary on December 5, 1934, as required by law, that part of the current annual report which contains recommendations or suggestions for legislative action as follows:—

1. At the present time the Department of Public Works has limited authority only, in regard to the regulation of speed of vehicles on highways. For some time it has been felt that no adequate or satisfactory solution of the problem of speed control has been discovered. The Department asks authority to experiment on various rules and devices on certain highways to determine whether or not a satisfactory solution of the speed problem can be reached by carrying out at the same time both scientific studies and practical tests of various ideas. It also requests authority for a limited period to establish from time to time such rules and regulations as may be necessary to carry out these plans.

2. Legislation to require automobiles to be equipped with a device to limit the speed thereof is recommended.

3. Legislation is desirable in order to clarify the intent of the law relative to detail of description of numbers on number plates.

4. An amendment is desired to clarify the law relative to the non-criminal disposition of charges for violation of motor vehicle parking rules, regulations, orders, ordinances and by-laws.

5. A further amendment is recommended providing for a penalty for making false statements in applications for the registration of motor vehicle trailers.

6. A resolve relative to sundry accounts of the Registry of Motor Vehicles is desired.

APPROPRIATIONS

Chapter 162, Acts of 1934, making appropriations for the maintenance of departments, boards, commissions, institutions and certain activities of the Commonwealth, etc., is, in part, as follows:—

Item

Requirements for Extinguishing the State Debt

217. For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of one million six hundred thirty-nine thousand four hundred twenty-five dollars and eighty-three cents, payable from the following accounts and funds in the following amounts:—
 from the Highway Fund, two hundred three thousand three hundred forty-two dollars and fifty cents; and
 the remainder from the General Fund. . . . \$1,639,425 83
- 217a. To meet one fourth of the expenditures authorized by sections one and two of chapter one hundred and twenty-two of the acts of nineteen hundred and thirty-one, and already

Item

in the main incurred, which is the proportionate part intended to be ultimately met by the commonwealth during the current fiscal year, thereby reducing by the sum hereby appropriated the amount that may be borrowed under section three of said chapter, without otherwise affecting the authority to borrow under said section three the remainder of the amount authorized to be borrowed thereunder, the sum of two million one hundred and twenty-five thousand dollars, the same to be paid from the Highway Fund . . . \$2,125,000 00

Interest on the Public Debt

218. For the payment of interest on the direct debt of the commonwealth, a sum not exceeding eight hundred seventeen thousand dollars, of which sum two hundred sixty thousand and seven hundred seventy-six dollars and twenty-five cents shall be paid from the Highway Fund . . . 817,000 00

Service of the Department of Banking and Insurance

Division of Insurance:

300. For other personal services of the division, including expenses of the board of appeal and certain other costs of supervising motor vehicle liability insurance, a sum not exceeding one hundred seventy-seven thousand five hundred and forty dollars, of which sum not more than thirty-five thousand dollars may be charged to the Highway Fund . . . 177,540 00

Service of the Department of Corporations and Taxation

Corporations and Tax Divisions:

308. For the salaries of certain positions filled by the commissioner, with the approval of the governor and council, and for additional clerical and other assistance, a sum not exceeding two hundred ten thousand five hundred dollars, of which sum not more than fifty thousand dollars may be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so called . . . 210,500 00

Service of the Department of Public Safety

Division of State Police:

546. For the salaries of officers, including detectives, a sum not exceeding four hundred nine thousand two hundred and fifty dollars, of which sum not more than one hundred twenty-nine thousand five hundred and twenty dollars may be charged to the Highway Fund . . . 409,250 00
548. For other necessary expenses of the uniformed division, including traveling expenses of detectives, a sum not exceeding three hundred sixty-five thousand five hundred dollars, of which sum not more than one hundred eighty-three thousand one hundred and fifty dollars may be charged to the Highway Fund . . . 365,500 00

Service of the Department of Public Works

The appropriations made in the following four items are to be paid three quarters from the Highway Fund and one quarter from the Port of Boston receipts:

565. For the salaries of the commissioner and the associate commissioners, a sum not exceeding sixteen thousand five hundred and seventy-five dollars . . . 16,575 00

Item		
566.	For personal services of clerks and assistants to the commissioner, a sum not exceeding eight thousand dollars . . .	\$8,000 00
567.	For traveling expenses of the commissioners, a sum not exceeding eighteen hundred dollars . . .	1,800 00
568.	For telephone service in the public works building, a sum not exceeding twenty-six thousand and twenty-five dollars . . .	26,025 00
	Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):	
569.	For the maintenance and operation of the new public works building, a sum not exceeding one hundred three thousand dollars . . .	103,000 00
570.	For the salaries of watchmen for the public works building, a sum not exceeding ten thousand five hundred dollars . . .	10,500 00
571.	For personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding eighty-six thousand two hundred and forty dollars . . .	86,240 00
572.	For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, a sum not exceeding ninety-seven hundred dollars . . .	9,700 00
573.	For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding twelve thousand dollars . . .	12,000 00
574.	For the construction and repair of town and county ways, a sum not exceeding two million five hundred thousand dollars . . .	2,500,000 00
575.	For aiding towns in the repair and improvement of public ways, a sum not exceeding nine hundred eighty-five thousand five hundred dollars . . .	985,500 00
576.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, a sum not exceeding two million seven hundred thousand dollars . . .	2,700,000 00
577.	For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding one million seven hundred thousand dollars . . .	1,700,000 00
578.	For administering the law relative to advertising signs near highways, a sum not exceeding fifteen thousand dollars, to be paid from the General Fund . . .	15,000 00
579.	For expenses of a topographical survey and map of the commonwealth, in addition to funds received from federal appropriations or private subscriptions, a sum not exceeding twenty-five thousand dollars . . .	25,000 00
	Registration of Motor Vehicles:	
580.	For personal services, a sum not exceeding eight hundred ninety-four thousand dollars, of which sum ten thousand dollars may be charged to the General Fund, and the remainder shall be paid from the Highway Fund . . .	894,000 00
581.	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners . . .	

Item

	and operators of motor vehicles, a sum not exceeding four hundred ninety thousand dollars, to be paid from the Highway Fund	\$490,000 00
582.	For printing and other expenses necessary in connection with publicity for certain safety work, a sum not exceeding one thousand dollars, to be paid from the Highway Fund	1,000 00
	Functions of the department relating to waterways and public lands:	
583.	For personal services of the chief engineer and assistants, a sum not exceeding fifty thousand dollars	50,000 00
584.	For services other than personal, including printing pamphlet of laws and the annual report, and for necessary office and engineering supplies and equipment, a sum not exceeding sixteen hundred dollars	1,600 00
585.	For the care and maintenance of the province lands and of the lands acquired and structures erected by the Provincetown tercentenary commission, a sum not exceeding forty-seven hundred dollars	4,700 00
586.	For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds, a sum not exceeding twenty-two thousand five hundred dollars	22,500 00
587.	For the improvement, development and protection of rivers and harbors, tide waters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, and of great ponds, a sum not exceeding seventy-five thousand dollars, and any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered	75,000 00
588.	For re-establishing and permanently marking certain triangulation points and sections, as required by order of the land court in accordance with section thirty-three of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, a sum not exceeding one thousand dollars	1,000 00
589.	For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding five hundred dollars	500 00
590.	For the operation and maintenance of the New Bedford state pier, a sum not exceeding five thousand dollars	5,000 00
591.	For the compensation of dumping inspectors, a sum not exceeding one thousand dollars	1,000 00
592.	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding four thousand dollars	4,000 00
593.	For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding thirty-eight hundred dollars	3,800 00
594.	For the operation and maintenance of the Cape Cod Canal pier, a sum not exceeding four thousand dollars	4,000 00

Item

Functions of the department relating to Port of Boston
(the following items are to be paid from the Port of
Boston receipts):

595.	For the construction of railroads and piers and for the development of certain land, a sum not exceeding ten thousand dollars	\$10,000 00
596.	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred thousand dollars	100,000 00
597.	For the maintenance of pier one, at East Boston, a sum not exceeding four thousand dollars	4,000 00
598.	For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding one hundred thousand dollars	100,000 00
599.	For dredging channels and filling flats, a sum not exceeding seventy thousand dollars, the same to be in addition to any unexpended balance of the appropriation made for the purpose in the previous year	70,000 00
600.	For removing abandoned hulks or wrecks lying along the waterfront of Boston harbor, a sum not exceeding five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	5,000 00

The following items are to be paid from the Highway
Fund, with the approval of the Metropolitan Dis-
trict Commission:

620.	For maintenance of boulevards and parkways, a sum not exceeding five hundred twenty-three thousand two hundred and seventy-five dollars	523,275 00
621.	For resurfacing of boulevards and parkways, a sum not exceeding two hundred thousand dollars	200,000 00
622.	For the cost of repairing certain storm damages to shore protection at Winthrop, a sum not exceeding twenty-two thousand dollars	22,000 00
623.	For maintenance of Wellington bridge, a sum not exceeding five thousand dollars	5,000 00

For certain other aid:

629.	For the compensation of certain public employees for injuries sustained in the course of their employment, as provided by section sixty-nine of chapter one hundred and fifty-two of the General Laws, as most recently amended by section seven of chapter three hundred and eighteen of the acts of nineteen hundred and thirty-three, a sum not exceeding sixty thousand dollars, of which sum not more than twenty-thousand dollars may be charged to the Highway Fund	60,000 00
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DEFICIENCIES

For deficiencies in certain appropriations of previous
years, in certain items, as follows:

Service of the Department of Public Works

Functions of the department relating to highways:

For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in

state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the purchase and improvement of a nursery for roadside planting, the sum of nineteen dollars and fourteen cents, to be paid from the Highway Fund	\$19 14
For administering the law relative to advertising signs near highways, the sum of one hundred forty-seven dollars and twenty-two cents, to be paid from the General Fund	147 22

Functions of the department relating to Port of Boston:

For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, the sum of six dollars and sixty cents, to be paid from the Port of Boston receipts	6 60
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SECTION 5. No payment shall be made or obligation incurred under authority of any special appropriation made by this act for construction of public buildings or other improvements at state institutions until plans and specifications have been approved by the governor, unless otherwise provided by such rules and regulations as the governor may make.

SECTION 6. No expenses incurred on and after the date of the passage of this act for mid-day meals by state employees, other than those who receive as part of their compensation a non-cash allowance in the form of full or complete boarding and housing, and those employees who are stationed beyond commuting distance from their homes for a period of more than twenty-four hours, shall be allowed by the commonwealth.

Chapter 384, Acts of 1934, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows:

SECTION 1. To provide for supplementing certain items in the general appropriation act, and for certain new activities and projects, the sums set forth in section two, for the particular purposes and subject to the conditions stated therein, are hereby appropriated from the general fund or ordinary revenue of the commonwealth, unless some other source of revenue is expressed, subject to the provisions of law regulating the disbursement of public funds and the approval thereof.

SECTION 2.

Item

Service of the Department of Public Works

Functions of the department relating to highways, to be paid from the Highway Fund:

569a. (This item omitted.)	
569b. For certain expenses incurred on account of the C. W. A. project "Study of Accidents", a sum not exceeding fifteen hundred dollars	\$1,500 00
574. For the construction and repair of town and county ways, a sum not exceeding one hundred fifty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	150,000 00
574a. For the cost of studies relative to the bridges across the Connecticut River at Turners Falls, a sum not exceeding ten thousand dollars	10,000 00
575. For aiding towns in the repair and improvement of public ways, a sum not exceeding four hundred fifty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	450,000 00

Item

Registration of Motor Vehicles:

581. For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding forty thousand dollars, the same to be paid from the Highway Fund; provided, that the department is hereby authorized to expend in the current year such sum as is hereby made available for incorporating in the number plates for motor vehicles a device to protect the revenues of the commonwealth against the transfer of such number plates from one such vehicle to another, and, provided further, that the department may also continue expenditures for this purpose after November thirtieth of the current year in anticipation of a further appropriation \$40,000 00

Functions of the department relating to waterways and public lands:

590. For the operation and maintenance of the New Bedford state pier, a sum not exceeding two thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose 2,000 00
- 593a. For the construction of an addition to the breakwater off the shore at Winthrop, as authorized by chapter two hundred and eighty-six of the acts of the current year, a sum not exceeding sixty-four thousand dollars, of which sum sixteen thousand dollars is to be paid from the Highway Fund 64,000 00
594. For the operation and maintenance of the Cape Cod Canal pier, a sum not exceeding seven hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose 700 00

Miscellaneous

The following items are to be paid from the Highway Fund, with the approval of the Metropolitan District Commission:

- 622a. For the extension of Mystic Valley parkway, so called, as authorized by chapter one hundred and seventy-two of the acts of the current year, a sum not exceeding fifty thousand dollars 50,000 00
- 622b. For payment of a certain award to Boston University on account of land damages, a sum not exceeding one hundred eighty-two thousand three hundred fourteen dollars and fifty-five cents, the same to be in addition to any amount heretofore appropriated for the purpose. 182,314 55

DEFICIENCIES

For deficiencies in certain appropriations of previous years, in certain items, as follows:

Department of Public Works

- For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, the

	sum of one hundred forty-four dollars and seventy-seven cents, to be paid from the Highway Fund	\$144 77
For	the purpose of enabling the department of public works to secure federal aid for the construction of highways, the sum of six hundred twelve dollars and eighty-one cents, to be paid from the Highway Fund	612 81
For	the construction and repair of town and county ways, the sum of three dollars and seventy-five cents, to be paid from the Highway Fund	3 75
For	removing the abandoned hulks or wrecks lying along the waterfront of East Boston and in Chelsea Creek, the sum of twenty-nine dollars and fifty-eight cents	29 58
OTHER APPROPRIATIONS		
32e.	For expenses of the joint board to investigate relative to improving the sanitary condition of Lake Quinsigamond and its watershed, a sum not exceeding fifteen hundred dollars, the same to be in addition to the further sums of fifteen hundred dollars to be assessed upon the city of Worcester and fifteen hundred dollars to be assessed upon the town of Shrewsbury, as authorized by chapter thirty-two of the resolves of the current year	1,500 00
32f.	For expenses of an investigation by a special commission of the advisability of licensing contractors and builders, which was revived and continued by chapter thirty-four of the resolves of the current year, a sum not exceeding one hundred dollars	100 00
32i.	For expenses of a joint board for an investigation relative to the sewage problem in the South Essex sewerage district, a sum not exceeding one thousand dollars, the same to be in addition to the amount to be contributed from other sources, as authorized by chapter forty-nine of the resolves of the current year	1,000 00
574b.	For the construction by the department of public works of a traffic circle near the northerly end of Neponset River bridge, as authorized by chapter three hundred and forty-one of the acts of the current year, a sum not exceeding ninety thousand dollars, the same to be paid from the Highway Fund	90,000 00
574c.	For the commonwealth's proportion of the cost of certain repairs to the Chelsea North bridge, as authorized by chapter three hundred and forty-two of the acts of the current year, a sum not exceeding one hundred thirty-five thousand dollars, the same to be paid from the Highway Fund	135,000 00
374d.	For the reconstruction of Ocean avenue in the city of Revere, as authorized by chapter three hundred and seventy-five of the acts of the current year, a sum not exceeding two hundred thousand dollars, to be paid from the Highway Fund	200,000 00
600b.	For expenses of the Boston Port Authority and the state commissioner of public works, acting jointly, to make certain investigations and studies as authorized by a resolve of the current year, a sum not exceeding five thousand dollars	5,000 00
600a.	For a contribution by the commonwealth towards the cost of constructing a sea wall and other shore protection in the Hough's Neck district of the city of Quincy, as authorized by chapter three hundred and twenty-two of the acts of the current year, a sum not exceeding ten thousand dollars	10,000 00

Item

- 101a. For expenses of the governor's committee on highway safety, a sum not exceeding ten thousand dollars, to be paid from the Highway Fund, with the approval of the governor and council, the same to be used in addition to other sums contributed from private sources . . . \$10,000 00

SECTION 3. The following amendments and transfers are hereby authorized in appropriations previously made:

Department of Public Works

The department of public works is hereby authorized to rebate the rent of certain spaces in the public works building occupied by the Traffic Accident Survey organization during their employment under a certain C. W. A. project.

The department of public works is hereby authorized to charge the cost of maintenance and repair of the Myles Garrison House in the town of Swansea to Item 576 of chapter one hundred and sixty-two of the acts of the present year.

The appropriations made available during the current year for the construction and repair of town and county ways shall be considered available for use in connection with the repair or reconstruction of certain bridges and certain other highway projects which have been authorized by special legislation.

HIGHWAY FUND DIVERSION

Chapter 377, Acts of 1934, provided for the transfer of the proceeds of the gasoline tax from the Highway Fund to the General Fund, as follows:

WHEREAS, The deferred operation of this act would tend to defeat its purpose, therefore it is hereby declared to be an emergency law, necessary for the immediate preservation of the public convenience.

BE IT ENACTED, ETC., AS FOLLOWS:

The State treasurer is hereby authorized and directed to transfer the sum of ten million dollars from the Highway Fund to the General Fund.

FINANCIAL STATEMENT **Summary of Income, Year Ending November 30, 1934**

HIGHWAY FUND

Section 34, Chapter 90, General Laws, as amended
(See Chapter 288, Acts of 1925)

Fees (for registration of motor vehicles, licenses to operate, etc.), and fines (penalties, Sundry Courts), net receipts	\$6,563,559 84
Gasoline Tax, net	16,699,285 34
Contributions for highways and assessments (G. L. Ch. 81)	353,910 18
Appropriation balances of previous years reverting	159,871 85
Contributions and Refunds	8,243 07
Sale of old materials and buildings	12,055 39
Reimbursement for repairs to guard rail and other property	7,289 89
Rent of property (Nursery)	180 00
Rent of Space, Public Works Building	20,881 35
Slot Machine Receipts	195 70
	<hr/>
	\$23,825,472 61

PORT OF BOSTON FUND *(Chapter 91, General Laws)*

Rents (leases and permits)	\$149,005 03
Reimbursement for services (inspection of dumping dredged material in Boston Harbor)	709 65
Use of Commonwealth Pier 5 (wharfage, dockage, rentals, etc.)	123,124 71
Use of Commonwealth Pier 1 (rentals, etc.)	4,925 59
Revenue from permits for dumping dredged material at receiving basins	7,335 87
License charges (for tidewater displacement and occupying Commonwealth tide lands (Boston Harbor)	9,606 77
Telephone Pay Station receipts	72 27
Sales of land	47,518 99
Sales of Boston Harbor maps	25
Sundries	1,018 33
Appropriation balances of previous years reverting	50,999 51
	<hr/>
	\$394,316 97

DEPARTMENT INCOME *(Ordinary Revenue)*

Sales (specifications and plans for contracts)	\$456 00
Aircraft licenses	366 00
Reimbursement for services (inspection of dumping dredged material outside of Boston Harbor, Ch. 196, Acts of 1925)	24 30
License charges (for tidewater displacement and occupying Commonwealth tide lands) outside of Boston Harbor	1,601 66
Certified copying charges	87 00
Sale of Atlas sheets and miscellaneous plans	550 40
Use of Province Lands (S. 25, c. 91, G. L.)	193 20
Permits for advertising signs	14,995 88
Use of New Bedford State Pier	18,467 32
Use of Cape Cod Canal State Pier	1,394 01
Conscience fund	2 00
	<hr/>
	\$38,137 77

IMPROVEMENT OF RIVERS AND HARBORS TRUST

(Sections 11, 29, Chapter 91, General Laws)

Contributions from towns, individuals or others . . . \$60,547 50

HIGHWAY TRUST

(Section 30, Chapter 81, General Laws)

Federal Aid (reimbursement from United States Government) \$4,706,698 11

FUNDS CONTRIBUTED FOR WORK UNDER SPECIAL ACTS

Contribution by Town of Hull (c. 330, Acts of 1933) \$4,000 00

Contribution by County of Plymouth (c. 330, Acts
of 1933) 4,000 00

\$8,000 00

Total \$29,033,172 96

EXPENDITURES

The expenditures by the Department under the provisions of General Laws and other acts and the appropriation acts, chapters 162 and 384, Acts of 1934, during the fiscal year ending November 30, 1934, were as follows:

ADMINISTRATIVE

Commissioner, Associate Commissioners, Personal
Services of clerks, stenographers, and Commis-
sioners' Travel \$26,170 00
Public Works Building, land and services 44,027 52
Public Works Building, equipment 8,941 38
Public Works Building, operation and maintenance 87,915 06
Salaries of Watchmen 10,536 11
Telephone service 20,086 47

\$197,676 54

RELATING TO HIGHWAYS

Personal Services—Chief Engineer, clerks and ste-
nographers \$86,834 10
State Highways—Construction (Chapter 81, Gen-
eral Laws) General contract work \$3,850,238 26
Engineering (Supervision) 618,148 00
Highway Testing Laboratory 11,925 81
Hingham-Hull (Chapter 118, Acts of 1931) 12,456 50
Fore River Bridge:
Temporary Bridge \$103,640 48
Substructure 563,452 93
Superstructure 76,615 54

743,708 95

5,236,477 52

Maintenance and Repair of State Highways (Chapter 81, General Laws)

Reconstruction of State Highways
General contract work \$1,795,742 11
Engineering, supervision on reconstruction 410,337 66

2,206,079 77

Ordinary Maintenance

General Maintenance \$1,162,051 31
Engineering (Supervision) 285,092 19
Highway Testing Laboratory 10,549 06
Care and Repair of road building machinery 141,925 99
Removal of snow from highways 916,701 86
Road planting and development 31,196 43

Traffic engineering, signs, and traffic count . . .	\$128,672 17	
Paint manufacture	15,275 63	
Newburyport Bridge, Salisbury-Newburyport, over Merrimac River, maintenance and operation . . .	5,220 12	
Brightman St. Bridge, Fall River-Somerset, maintenance and operation	30,038 15	
New Bedford-Fairhaven Bridge, Acushnet River, maintenance and operation	19,625 75	
Quincy-Weymouth Bridge, maintenance and operation	5,048 37	
Route and detour maps	2,285 15	
Topographical survey	24,972 54	
Geodetic survey	1,188 02	
	<hr/>	\$2,779,842 74
<i>Construction of Town and County Ways</i>		
(Section 34, Chapter 90, General Laws)		
State's expenditures for work contracted for in cities and towns	\$2,151,772 06	
Engineering and expense (supervision)	435,614 07	
	<hr/>	2,587,386 13
<i>Aiding Towns in the Repair and Improvement of Public Ways</i> (Section 26, Chapter 81, General Laws)		
State's expenditures for work contracted for in cities and towns	\$1,254,297 92	
Engineering and expense (supervision)	67,122 53	
	<hr/>	1,321,420 45
<i>Emergency Public Works Construction</i>		3,680,694 16
<i>Special Acts:</i>		
Expenditures under the provisions of Chapter 122, Acts of 1931		76,239 77
<i>Incidentals</i> (printing, postage, supplies, etc.)		6,486 59
<i>Advertising signs, regulation of, personal services and expenses</i>		14,436 11
<i>Highways in Malden, Braintree, Weymouth and Hingham</i>		1,514 79
<i>Highways in Metropolitan District</i> (Chapter 420, Acts of 1930, as amended by Chapter 450, Acts of 1931)		
Section 1. Canton-Dedham-Wellesley, etc.	\$73,595 94	
Section 2. Canterbury St., Boston	32,413 09	
Section 3. Land taking Neponset River, Milton	1,470 56	
Section 4. West Roxbury-Brookline Parkway	26,043 83	
	<hr/>	133,523 42
<i>Abolition of Grade Crossings</i> (Chapter 417, Acts of 1930)		802 28
<i>Construction of Saugus River Bridge</i> (Chapter 241, Acts of 1932)		56,812 52
<i>Expenditures under Chapter 258, Acts of 1932</i>		
Section 1. State Highway, Revere	\$65,671 12	
Section 2. Boston-Revere	16,912 77	
Section 3. Ocean Ave., Revere	16,946 31	
	<hr/>	99,530 20
<i>Alewife Brook Parkway Extension</i> (Chapter 302, Acts of 1932)		167,418 35
<i>Study of Accident Expenses</i> (Chapter 384, Acts of 1934)		1,390 39
<i>Traffic Circle, Neponset River</i> (Chapter 341, Acts of 1934)		897 25

P. D. 54	15
<i>Reconstruction of Ocean Ave., Revere</i> (Chapter 375, Acts of 1934)	\$956 74
<i>Study relative to Bridges, Turners Falls</i> (Chapter 314, Acts of 1934)	12 85
<i>Suppression of gypsy and brown-tail moths</i> , on State highways in cities and towns	11,991 43
<i>Total Expenditures for Highways</i>	<u>\$18,470,747 56</u>

SUMMARY OF EXPENDITURES RELATING TO WATERWAYS

General Expenses	\$53,046 69
<i>Boston Harbor:</i>	
Dredging and Filling	114,807 26
Free Port Investigation (Chapter 48, Resolves 1934)	1,430 91
Maintenance and Operation of Commonwealth Pier No. 5, South Boston	101,841 42
Maintenance and Operation of Commonwealth Pier No. 1, East Boston	1,007 86
Maintenance of Property	72,289 39
Stony Beach, Hull (Chapter 330, Acts 1933)	16,101 47
Streets, Piers and Railroads	7,036 93
Wrecks, removal of	5,880 37
<i>Outside of Boston Harbor:</i>	
Cape Cod Canal Pier, construction	4,062 05
Cape Cod Canal Pier, operation and maintenance	4,545 82
Cape Poge, Edgartown (Federal Public Works Adm.)	12,827 01
Compensation of Dumping Inspectors	372 83
Herring River, Wellfleet (Chapter 217, Acts 1933)	5,306 92
Improvement of Rivers and Harbors	113,315 08
Marshfield Shore Protection (Chapter 407, Acts 1931)	1,282 50
Nahant Shore Protection	27,798 76
New Bedford Pier, operation and maintenance	7,014 72
Plymouth Property, expenses of	3,515 74
Province Lands, expenses of	4,653 60
Repairing damages to shore	21,949 71
Stream Gauging	4,000 00
Scituate Shore Protection (Chapter 286, Acts 1933)	29,417 86
Town Boundaries, surveying	440 64
Topographical Survey	730 90
Winthrop Shore Protection (Chapter 265, Acts 1932)	37,636 62
Winthrop Shore Protection (Chapter 286, Acts 1934)	51,096 20
<i>Total</i>	<u>\$703,409 26</u>

EXPENDITURES RELATING TO THE REGISTRY OF MOTOR VEHICLES

Cost of running the Registry of Motor Vehicles	\$1,357,509 98
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SUMMARY OF EXPENDITURES BY DEPARTMENT FOR YEAR ENDING NOVEMBER 30, 1934

Administrative	\$197,676 54
Relating to Highways	18,470,747 56
Registry of Motor Vehicles	1,357,509 98
Relating to Waterways	703,409 26
<i>Total</i>	<u>\$20,729,343 34</u>

CO-OPERATIVE WORK — SUPERVISION OF EXPENDITURES

The Department has supervised the expenditures during the year by cities, towns and counties, under Chapter 81 General Laws, as amended, of approximately \$2,424,333.28 for co-operative work, in repairing, maintaining and improv-

ing certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Department.

RELATING TO HIGHWAYS

GENERAL STATEMENT

State Highways.—During the year ending November 30, 1934, the Department laid out new State highways amounting to 29.53 miles in 20 cities and towns. Under Chapter 81, General Laws, as amended by Chapter 427, Acts of 1931, 1.33 miles of State Highways were discontinued or abandoned. The total length of State Highways at the end of the year was 1852.26 miles.

Highways Constructed in 1934.—Construction has been completed on 31.996 miles of State highway and 189.795 miles of highway under the provisions of Section 34, Chapter 90, General Laws, as amended, making a total of 221.791 miles completed during the year.

Of the above highways completed this year, the classification according to type of pavement is as follows:

- 6.864 miles of Reinforced Cement Concrete.
- 7.688 miles of Sheet Type Cement Concrete.
- 74.596 miles of Bituminous Macadam.
- 14.259 miles of Bituminous Concrete.
- 73.891 miles of Bituminous Concrete (Mixed in Place).
- 0.768 mile of Waterbound Macadam (Bituminous Surfacing).
- 24.599 miles of Gravel with Bituminous Treatment.
- 19.073 miles of Gravel.
- 0.053 mile of Brick.

Resurfacing, Reconstruction and Widening of State Highways.—During the year 30.297 miles of State highway were widened but not resurfaced, and 78.914 miles were resurfaced or reconstructed and widened. In addition to this work on which the surfacing has been completed, there are several miles of road in various stages of completion which are scheduled to be finished next year.

The Resurfacing or Reconstruction of State Highways in 1934 was divided into types as follows:

- 1.318 miles of Reinforced Cement Concrete.
- 70.528 miles of Bituminous Macadam.
- 1.983 miles of Bituminous Concrete.
- 4.498 miles of Dual (Reinf. Conc. and Bit. Macadam).
- 0.587 mile of Brick.

Surveys, Plans and Estimates.—During the year ending November 30, 1934, preliminary surveys, plans and estimates were made as follows:

For State Highway Construction.—Reconnaissance survey in 4 cities and 5 towns, 19.780 miles; reconnaissance plans in 3 cities and 2 towns, 14.174 miles; reconnaissance estimates in 3 cities and 4 towns, 14.200 miles. Preliminary surveys in 2 cities and 10 towns, 25.075 miles; plans in 4 cities and 9 towns, 17.208 miles; preliminary estimates in 6 cities and 15 towns, 30.019 miles; lines and grades in 7 cities and 13 towns, 35.167 miles; and final surveys in 5 cities and 6 towns, 16.838 miles.

For State Highway Reconstruction and Resurfacing.—Reconnaissance survey in 3 towns, 0.928 mile; reconnaissance plans in 2 towns, 0.665 mile. Preliminary surveys in 9 cities and 42 towns, 97.394 miles; plans in 6 cities and 32 towns, 81.735 miles; preliminary estimates in 8 cities and 32 towns, 89.596 miles; lines and grades in 14 cities and 51 towns, 147.076 miles; and final survey in 8 cities and 37 towns, 84.612 miles.

Under Section 34, Chapter 90, General Laws, as amended.—Reconnaissance surveys in 1 city and 18 towns, 29.974 miles. Preliminary surveys in 12 cities and 171 towns, 193.798 miles; plans in 12 cities and 163 towns, 180.465 miles; preliminary estimates in 12 cities and 162 towns, 171.090 miles; lines and grades in

10 cities and 163 towns, 179.399 miles; and final surveys in 8 cities and 47 towns, 53.223 miles.

Under the provisions of various Acts and Resolves, surveys, plans, estimates, lines and grades and final surveys were made as follows:—

Chapter 24, Resolves of 1933, Section A: 29.79 miles of reconnaissance estimates in 4 cities and 8 towns.

Chapter 31, Resolves of 1934, Section A: 0.214 mile of reconnaissance estimate in 1 city; Section C: 0.49 mile of reconnaissance estimate in 1 city.

Chapter 45, Resolves of 1934, Section A: 2.03 miles of reconnaissance estimate in 1 city; Section B: 0.53 mile of reconnaissance estimate in 1 city.

Chapter 341, Acts of 1934: 0.222 mile of survey, plans and estimate in 1 city.

Chapter 417, Acts of 1930: 0.284 mile of reconnaissance estimate in 1 city.

Precise levels have been made covering 385 miles in 70 cities and towns; 146 U. S. C. & G. S. bench mark disks have been set in 25 cities and towns, and 25 D. P. W. bench mark disks have been set in 16 cities and towns.

Permits.—There were 1,676 permits issued during the year for opening or occupying State highways for various purposes.

Engineering Advice to Municipal Authorities.—The Department furnished engineering advice without charge to 48 cities and towns in accordance with the provisions of Section 1, Chapter 81, General Laws.

Approval of Specifications.—The Department approved during the year under the provisions of Section 7, Chapter 44, General Laws, as amended, specifications for the construction of roads in 14 towns and cities.

Planting of Trees on State Highways.—During the past year, 5,024 trees were planted along roadsides making a total of 69,915 trees thus set out in the past thirty years. In addition, there were planted throughout the State 9,675 shrubs, 1,742 vines, and 1,074 evergreens; also 7,041 small pines on bare slopes and ragged cuts.

PETITIONS, MEETINGS AND HEARINGS

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, chapter 81, General Laws; appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 76 cases; on the matter of outdoor advertising in 5 towns and cities; on the matter of special regulations for motor vehicles in Waltham and Revere; on the matter of laying out a State highway at a level with the railroad across the location of the Newburyport branch of the Boston & Maine Railroad, at or in the vicinity of Parker Street, in Newburyport; on the matter of the alteration of the Railroad Bridge and approaches at Point of Pines in the city of Revere, and on traffic conditions on the Worcester Turnpike in Newton and Wellesley.

Petitions were received and contracts signed during the year as follows:

	Petitions	Contracts
State highways	51	45
Work under section 34, chapter 90, General Laws		460
Work under section 26, chapter 81, General Laws	181	181
Work under Special Acts		6
Miscellaneous		15
Total	232	707

STATE HIGHWAYS

PETITIONS FOR STATE HIGHWAYS

General Laws, chapter 81, section 4 (Tercentenary Edition), provides that—

“If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of

a new or existing way as a highway in whole or in part, in their county, city or town, they may apply, by a written petition, to the department, requesting that said way be laid out and taken charge of by the Commonwealth."

Petitions under the aforesaid section have been received during the year, as follows:—

SELECTMEN OF HINGHAM:—Road locally known as Derby Street, extending from Whiting Street westerly to the dividing line between the towns of Hingham and Weymouth. Received December 6, 1933.

MAYOR AND CITY COUNCIL OF NEWBURYPORT:—Road extending from a point on State Street at or near the dividing line between the city of Newburyport and the town of Newbury northerly, over a new location, and including Winter and Summer Streets and Bridge Road, to the Newburyport-Salisbury bridge over the Merrimack River. Received December 12, 1933.

SELECTMEN OF HINGHAM:—Road extending from Whiting Street at its junction with Derby Street northeasterly, over a new location, to Main Street at or near its junction with Prospect Street. Received December 12, 1933.

SELECTMEN OF STOUGHTON:—Road locally known as Turnpike and Park Streets, extending from the dividing line between the towns of Canton and Stoughton to the dividing line between the town of Stoughton and the city of Brockton. Received December 20, 1933.

SELECTMEN OF RANDOLPH:—Road locally known as High Street, extending from the dividing line between the towns of Canton and Randolph to the dividing line between the town of Randolph and the city of Quincy. Received December 20, 1933.

SELECTMEN OF CANTON:—Road locally known as Cedar Street, extending from the dividing line between the towns of Randolph and Canton to the dividing line between the towns of Canton and Stoughton. Received December 20, 1933.

SELECTMEN OF WEST BROOKFIELD:—Road locally known as Ware Road, extending from the dividing line between the towns of West Brookfield and Ware to the junction of the Ware Road with Main Street. Received January 3, 1934.

MAYOR AND MUNICIPAL COUNCIL OF ATTLEBORO:—Road locally known as Washington Street, extending from the Massachusetts-Rhode Island State line northerly for about 147 feet. Received January 9, 1934.

SELECTMEN OF BRIMFIELD:—Road locally known as Wales Road, extending southerly from Brimfield Post Office for about one-half a mile. Received February 1, 1934.

SELECTMEN OF TYNGSBOROUGH:—Road locally known as Kendall Road, extending from Tyngsborough bridge to the dividing line between the towns of Tyngsborough and Dunstable. Received February 23, 1934.

SELECTMEN OF MANCHESTER:—Road extending from the dividing line between the towns of Wenham and Manchester easterly, over a new location, to the dividing line between the town of Manchester and the city of Gloucester. Received March 6, 1934.

MAYOR AND ALDERMEN OF GLOUCESTER:—Road extending from the dividing line between the town of Manchester and the city of Gloucester northeasterly, over a new location, to Essex Avenue at or near Magnolia Avenue. Received March 9, 1934.

SELECTMEN OF WENHAM:—Road extending from the dividing line between the city of Beverly and the town of Wenham at or near Boulder Lane north-easterly, over a new location, to the dividing line between the towns of Wenham and Manchester. Received March 14, 1934.

MAYOR AND ALDERMEN OF BEVERLY:—Road extending from the junction of Lothrop and Hale Streets northeasterly over Lothrop Street and new location to the dividing line between the city of Beverly and the town of Wenham at or near Boulder Lane. Received March 15, 1934.

SELECTMEN OF HANOVER:—Road locally known as Hanover Street, extending

westerly from the end of the existing State highway near the corner of Spring Street to Market Street. Received May 10, 1934.

SELECTMEN OF COHASSET: — Road locally known as King Street, extending from the junction of King Street with the new State road northeasterly to a point on North Main Street about opposite Red Gate Lane. Received July 20, 1934.

SELECTMEN OF DEDHAM: — Road extending from Washington Street at its intersection with the new Providence Road northerly, over a new location, to a point on the dividing line between the town of Dedham and the city of Boston between the Charles River and the New York, New Haven & Hartford Railroad. Received September 25, 1934.

SELECTMEN OF BELCHERTOWN: — Road constructed by the Metropolitan District Water Supply Commission extending from the junction of Parker Road and Amherst Road northerly to the dividing line between the towns of Belchertown and Pelham. Received September 17, 1934.

SELECTMEN OF NEW SALEM: — Road constructed by the Metropolitan District Water Supply Commission, extending from the dividing line between the towns of Shutesbury and New Salem northeasterly to the dividing line between the towns of New Salem and Orange. Received September 17, 1934.

SELECTMEN OF PELHAM: — Road constructed by the Metropolitan District Water Supply Commission, extending from the dividing line between the towns of Belchertown and Pelham northerly to the dividing line between the towns of Pelham and Shutesbury. Received September 12, 1934.

SELECTMEN OF SHUTESBURY: — Road constructed by the Metropolitan District Water Supply Commission extending from the dividing line between the towns of Pelham and Shutesbury northerly and northeasterly to the dividing line between the towns of Shutesbury and New Salem; and at the New Salem line near Cooleyville. Received September 17, 1934.

SELECTMEN OF BROOKLINE: — Road locally known as Boylston Street, extending from the end of the existing State highway near Sumner Road northeasterly to High Street. Received September 18, 1934.

SELECTMEN OF SUTTON: — Road extending from the dividing line between the towns of Millbury and Sutton southeasterly, over a new location, to a point on the dividing line between the towns of Sutton and Northbridge at or near Whitinsville Road. Received September 18, 1934.

SELECTMEN OF UXBRIDGE: — Road extending from the dividing line between the towns of Sutton and Uxbridge southeasterly, over a new location, to a point on Ironstone Road at or near the property of F. J. Hamilton. Received September 18, 1934.

SELECTMEN OF NORTHBRIDGE: — Road extending from the dividing line between the towns of Sutton and Northbridge southeasterly along or near Prentice Road again to the dividing line between the towns of Northbridge and Sutton. Received September 18, 1934.

SELECTMEN OF PHILLIPSTON: — Road extending from Phillipston Four Corners southerly to Phillipston Center; thence westerly and southerly to an intersection with Queen Lake Road, and thence southwesterly to the dividing line between the towns of Phillipston and Petersham. Received October 2, 1934.

SELECTMEN OF PAXTON: — Road locally known as Richards Avenue, extending from Paxton Common to Maple Avenue. Received October 16, 1934.

SELECTMEN OF MILLBURY: — Road extending from a point on North Main Street at or near Greenwood Street southeasterly, over a new location, to a point on the dividing line between the towns of Millbury and Sutton west of Hathaway's Pond. Received November 20, 1934.

SELECTMEN OF ORANGE: — Road locally known as the New Salem-Athol Road, extending from the dividing line between the towns of New Salem and Orange to the dividing line between the towns of Orange and Athol. Received November 20, 1934.

MAYOR AND BOARD OF STREET COMMISSIONERS OF BOSTON: — Road extending

from the junction of Brook Farm Parkway and Spring Street southerly, over a new location, to the dividing line between the city of Boston and the town of Dedham. Received November 23, 1934.

MAYOR AND BOARD OF STREET COMMISSIONERS OF BOSTON:—Road extending from the southwesterly terminus of the Northern Radial Highway to the Porter Street entrance of the Sumner Tunnel. Received November 26, 1934.

CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS

(Chapter 81, General Laws, as amended)

The following contracts were entered into during the year for the construction and reconstruction of State highways, and work incidental thereto, in various municipalities:—

Otis

December 13, 1933, contract made with Daniel O'Connell's Sons, Inc., of Holyoke, for constructing about 2,304 feet of State highway on Monterey Road and about 17,434 feet of State highway on Blandford Road, the surface consisting of stone mixed in place with tar. The proposal amounted to \$94,774.95. Work completed November 9, 1934. Expenditure during 1934, \$86,144.51.

North Adams

December 13, 1933, contract made with Daniel O'Connell's Sons, Inc., of Holyoke, for constructing and reconstructing about 4,600 feet of State highway on Williamstown Road, the surface consisting of brick pavement. The proposal amounted to \$77,882.95. Work practically completed. Expenditure during 1934, \$71,665.46.

Fairhaven

December 26, 1933, contract made with Eastern Contracting Company, of Quincy, for constructing about 5,345 feet of State highway on new location and Spring Street, the surface on 3,837 feet consisting of reinforced cement concrete. The proposal amounted to \$60,066.60. Work completed August 22, 1934. Expenditure during 1934, \$66,103.99.

Revere

December 13, 1933, contract made with M. McDonough Co., of Saugus, for constructing about 5,060 feet of State highway on new location and George Street, the surface consisting of sections of reinforced cement concrete, bituminous macadam and plain cement concrete. The proposal amounted to \$238,984.85. Work about three-fifths completed. Expenditure during 1934, \$145,178.12.

North Adams

January 2, 1934, contract made with Carl B. Lindholm, of Pittsfield, for constructing four bridges on Williamstown Road and repairing one bridge on Depot Street. The proposal amounted to \$84,425.80. Work completed November 8, 1934. Expenditure during 1934, \$84,141.67.

Stoughton

January 2, 1934, contract made with Arute Bros., Incorporated, of Bridgewater, for constructing a steel through plate girder bridge with reinforced concrete floor over the tracks of the New York, New Haven & Hartford Railroad Company on the State highway, known as Washington Street; the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$38,038.50. Work completed June 26, 1934. Expenditure during 1934, \$39,871.03.

Auburn

January 9, 1934, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing a steel through plate girder bridge over the tracks of the New York, New Haven & Hartford Railroad Company, and extending the reinforced concrete beam bridge over the outlet to Dunn's Pond, on the State highway in Auburn, known as Auto Route 12. The proposal amounted to \$54,693.20. Work completed August 22, 1934. Expenditure during 1934, \$61,130.89.

Auburn

February 27, 1934, contract made with Peter Salvucci, of Waltham, for reconstructing about 2,274 feet of State highway on Southbridge Street, the surface consisting of four lanes of standard reinforced cement concrete. The proposal amounted to \$39,821.50. Work completed September 1, 1934. Expenditure during 1934, \$41,006.63.

Revere

April 2, 1934, contract made with M. McDonough Co., of Saugus, for reconstructing about 11,150 feet of State highway on North Shore Road in Revere, the surface consisting of bituminous macadam. The proposal amounted to \$174,488.10. Work completed August 8, 1934. Expenditure during 1934, \$197,755.52.

Brookline

April 3, 1934, contract made with Coleman Bros. Corporation, of Boston, for constructing about 6,185 feet of State highway on Boylston Street in Brookline, the surface consisting of reinforced cement concrete constructed on each side of a loam section but separated therefrom by bituminous concrete shoulders. The proposal amounted to \$206,682.90. Work about four-fifths completed. Expenditure during 1934, \$184,358.19.

Ashland-Holliston

April 3, 1934, contract made with Ellsworth H. Lewis, of Andover, for widening about 9,102 feet of State highway on Pond Street in Ashland and about 8,500 feet of State highway on Concord Street in Holliston, the surface consisting of bituminous macadam. The proposal amounted to \$33,061.00. Work completed May 24, 1934. Expenditure during 1934, \$26,686.99.

Palmer

April 10, 1934, contract made with Kelleher Corporation, of Montague, for reconstructing and widening about 22,923 feet of State highway on Ware Road in Palmer, the surface consisting of bituminous macadam. The proposal amounted to \$81,193.50. Work completed September 18, 1934. Expenditure during 1934, \$87,103.47.

Newburyport

April 12, 1934, contract made with Arute Bros., Incorporated, of Bridgewater, for constructing a reinforced concrete beam and steel plate girder bridge on the State highway in Newburyport over Merrimac Street, the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$120,590.12. Work about five-sixths completed. Expenditure during 1934, \$104,873.29.

Agawam

April 17, 1934, contract made with Daniel O'Connell's Sons, Inc., of Holyoke, for reconstructing about 12,400 feet of State highway on River Road in Agawam, the surface consisting of bituminous macadam. The proposal amounted to \$31,628.85. Work completed September 22, 1934. Expenditure during 1934, \$37,308.82.

Saugus

April 18, 1934, contract made with M. McDonough Co., of Saugus, for widening and resurfacing about 3,744 feet of State highway on Essex Street in Saugus, the surface consisting of bituminous macadam. The proposal amounted to \$13,747.50. Work completed July 31, 1934. Expenditure during 1934, \$13,865.57.

Winchendon

April 18, 1934, contract made with Kelleher Corporation, of Montague, for reconstructing about 3,590 feet of State highway on Maple Street in Winchendon, the surface consisting of bituminous macadam. The proposal amounted to \$10,269.49. Work completed July 5, 1934. Expenditure during 1934, \$12,277.85.

Charlton-Sturbridge

April 24, 1934, contract made with Rome Construction Company, of Quincy, for reconstructing about 15,626 feet of State highway on Sturbridge Road in Charlton, and about 14,020 feet of State highway on the same road in Sturbridge, the surface consisting of bituminous macadam. The proposal amounted to \$119,300.00. Work practically completed. Expenditure during 1934, \$106,765.85.

Ware

April 24, 1934, contract made with Kelleher Corporation, of Montague, for reconstructing about 10,000 feet of State highway on Palmer Road in Ware, the surface consisting of bituminous macadam. The proposal amounted to \$36,670.30. Work completed July 20, 1934. Expenditure during 1934, \$36,665.57.

Lexington

May 2, 1934, contract made with Warren Brothers Roads Company, of Cambridge, for constructing a reinforced concrete rigid frame bridge over Waltham Street in Lexington. The proposal amounted to \$37,427.65. Work completed November 7, 1934. Expenditure during 1934, \$32,494.93.

Great Barrington

May 2, 1934, contract made with Louis Longhi & Son, of Torrington, Conn., for reconstructing about 2,200 feet of State highway on Monterey Road in Great Barrington, the surface consisting of bituminous macadam. The proposal amounted to \$25,141.00. Work completed November 24, 1934. Expenditure during 1934, \$23,967.90.

Richmond

May 15, 1934, contract made with Green Island Construction Company, Inc., of Green Island, New York, for constructing about 9,010 feet of State highway on Canaan Road in Richmond, the surface consisting of bituminous macadam. The proposal amounted to \$65,359.50. Work completed November 5, 1934. Expenditure during 1934, \$53,818.21.

Fall River-Somerset

May 15, 1934, contract made with Seaboard Construction Company, of Chelsea, for making repairs to two fender piers of the Brightman Street Bridge. The proposal amounted to \$6,878.00. Work completed August 21, 1934. Expenditure during 1934, \$6,969.66.

Newburyport

May 23, 1934, contract made with George A. Fuller Company, of Boston, for constructing a steel rigid frame bridge with reinforced concrete deck under High Street, a reinforced concrete rigid frame bridge under Washington Street, and about 7,186 feet of State highway on new location, the surface consisting of standard reinforced Portland cement concrete constructed on each side of a center reservation but separated therefrom by bituminous concrete shoulders, dual type of pavement consisting of three lanes of reinforced cement concrete bordering an inner lane of bituminous macadam, and bituminous concrete. The proposal amounted to \$401,486.89. Work about two-thirds completed. Expenditure during 1934, \$260,820.51.

Arlington-Belmont-Lexington

May 23, 1934, contract made with George A. Fuller Company, of Boston, for constructing about 16,754 feet of State highway on new location in Arlington, Belmont and Lexington, the surface consisting of four lanes of sheet type cement concrete with bituminous macadam shoulders on each side. The proposal amounted to \$364,652.43. Work about two-thirds completed. Expenditure during 1934, \$269,957.13.

Lexington-Lincoln

May 23, 1934, contract made with B. Perini & Sons, Inc., of Framingham, for constructing about 28,390 feet of State highway on Concord Avenue and new loca-

tion in Lexington and Lincoln, the surface consisting of four lanes of sheet type cement concrete with bituminous macadam shoulders on each side. The proposal amounted to \$577,612.50. Work about four-fifths completed. Expenditure during 1934, \$449,712.45.

Lowell-Tyngsborough

June 6, 1934, contract made with Ellsworth H. Lewis, of Andover, for reconstructing about 5,113 feet of State highway on Pawtucket Boulevard in Lowell, and about 15,429 feet of State highway on the same road in Tyngsborough, the surface consisting of bituminous macadam. The proposal amounted to \$110,568.10. Work completed September 28, 1934. Expenditure during 1934, \$124,094.63.

Easton-Raynham-Taunton

June 6, 1934, contract made with Arute Bros., Incorporated, of Bridgewater, for reconstructing about 23,428 feet of State highway on Washington and Turnpike Streets in Easton, about 22,089 feet of State highway on Broadway in Raynham, and about 2,021 feet of State highway on Broadway in Taunton, the surface consisting of reinforced cement concrete. The proposal amounted to \$199,748.18. Work practically completed. Expenditure during 1934, \$185,658.57.

Concord

June 8, 1934, contract made with B. Perini & Sons, Inc., of Framingham, for constructing and reconstructing about 12,100 feet of State highway on Elm Street and new location in Concord, the surface consisting of four lanes of standard reinforced cement concrete with bituminous macadam shoulders on each side. The proposal amounted to \$375,300.68. Work about two-thirds completed. Expenditure during 1934, \$215,104.41.

Concord-Lincoln

June 8, 1934, contract made with B. Perini & Sons, Inc., of Framingham, for constructing a reinforced concrete beam and steel stringer bridge over the Boston & Maine Railroad in Concord, and constructing about 11,500 feet of State highway on new location in Concord, and about 3,000 feet of State highway on new location in Lincoln, the surface on about 11,050 feet consisting of four lanes of reinforced cement concrete with bituminous macadam shoulders on each side, the surface on about 3,349 feet consisting of bituminous macadam, and the surface over the railroad bridge consisting of bituminous concrete. The proposal amounted to \$266,212.94. Work practically completed. Expenditure during 1934, \$214,785.90.

Sterling-Leominster

June 8, 1934, contract made with R. H. Newell Company, of Uxbridge, for reconstructing about 13,654 feet of State highway on Leominster Road in Sterling, and about 13,411 feet of State highway on Central Street in Leominster, the surface consisting of sections of bituminous macadam with reinforced cement concrete on each side, and bituminous macadam. The proposal amounted to \$164,090.20. Work practically completed. Expenditure during 1934, \$149,797.56.

Brimfield-Sturbridge

June 12, 1934, contract made with the New Haven Road Construction Company, Incorporated, for reconstructing about 22,169 feet of State highway on the Sturbridge Road in Brimfield, and about 13,218 feet of State highway on the Brimfield Road in Sturbridge, the surface consisting of bituminous macadam. The proposal amounted to \$207,835.70. Work practically completed. Expenditure during 1934, \$174,332.37.

Essex-Gloucester

June 15, 1934, contract made with Welch & Moynihan Co., of Salem, for reconstructing about 5,850 feet of State highway on Eastern Avenue in Essex, and about 26,907 feet of State highway on Essex Avenue in Gloucester, the surface consisting of bituminous macadam. The proposal amounted to \$205,699.15. Work about four-fifths completed. Expenditure during 1934, \$167,871.19.

Lawrence-North Andover

June 26, 1934, contract made with James E. Watkins Company, Inc., of Amesbury, for reconstructing about 3,117 feet of State highway on Turnpike Street in North Andover, and about 2,365 feet of State highway on Winthrop Avenue in Lawrence, the surface consisting of sections of reinforced cement concrete and bituminous macadam. The proposal amounted to \$42,184.40. Work completed November 17, 1934. Expenditure during 1934, \$38,211.57.

Hatfield-Northampton

July 3, 1934, contract made with Kelleher Corporation, of Montague, for reconstructing about 10,761 feet of State highway on West Street in Hatfield, and about 9,539 feet of State highway on Laurel Park Road in Northampton, the surface consisting of bituminous macadam. The proposal amounted to \$137,649.50. Work completed November 23, 1934. Expenditure during 1934, \$132,217.57.

Ashby-Fitchburg

July 10, 1934, contract made with The Fitchburg Concrete Construction Company, of Fitchburg, for reconstructing about 9,940 feet of State highway on Fitchburg Road in Ashby, and about 13,402 feet of State highway on the Ashby Road in Fitchburg, the surface consisting of bituminous macadam. The proposal amounted to \$148,732.60. Work about five-sevenths completed. Expenditure during 1934, \$107,224.14.

Fall-River-Somerset

July 11, 1934, contract made with the National Roofing Company, of Fall River, for cleaning and painting the Brightman Street Bridge. The proposal amounted to \$3,900.00. Work completed November 27, 1934. Expenditure during 1934, \$3,946.55.

Charlemont

July 17, 1934, contract made with Kelleher Corporation, of Montague, for reconstructing 48,148 feet of State highway on the Mohawk Trail in Charlemont, the surface consisting of bituminous macadam. The proposal amounted to \$441,701.00. Work about one-fourth completed. Expenditure during 1934, \$113,095.88.

Braintree-Randolph

September 11, 1934, contract made with the State Construction Co., Inc., of Boston, for constructing a reinforced concrete slab bridge over Farm Brook in Braintree, a rolled steel stringer bridge with reinforced concrete floor over the New York, New Haven & Hartford Railroad in Randolph, about 7,965 feet of State highway on Pond and Granite Streets in Braintree, and about 11,775 feet of State highway on North Street in Randolph, the surface except over the railroad bridge consisting of bituminous macadam, and the surface over the railroad bridge consisting of bituminous concrete. The proposal amounted to \$160,535.70. Work about one-fourth completed. Expenditure during 1934, \$39,610.30.

Blandford-Russell

September 18, 1934, contract made with The Arborio Road Construction Company, Incorporated, of Windsor, Conn., for reconstructing about 2,824 feet of State highway on North Street in Blandford, and about 15,950 feet of State highway on Blandford Road in Russell, the surface consisting of bituminous macadam. The proposal amounted to \$93,584.95. Work about one-third completed. Expenditure during 1934, \$28,750.02.

Brookline

October 2, 1934, contract made with Simpson Bros. Corporation, of Boston, for constructing about 4,213 feet of State highway on Boylston Street in Brookline, the surface consisting of bituminous concrete. The proposal amounted to \$24,133.80. Work practically completed. Expenditure during 1934, \$13,025.88.

Worcester

October 2, 1934, contract made with Coleman Bros. Corporation, of Boston, for constructing a through steel plate girder bridge over the Boston & Albany Railroad and the approaches thereto on the State highway in Worcester known as Cambridge Street, the surface consisting of bituminous concrete and bituminous macadam. The proposal amounted to \$100,307.20. Work just commenced. Expenditure during 1934, \$7,579.05.

Dennis-Yarmouth

November 13, 1934, contract made with New England Foundation Company, Incorporated, of Boston, for constructing a reinforced concrete pile bridge and the approaches thereto on Bridge Street in Yarmouth and Main Street in Dennis, the surface consisting of bituminous concrete. The proposal amounted to \$156,807.40. Work not yet commenced.

Charlton-Sturbridge-East Brookfield

November 13, 1934, contract made with Alfred L. Perini, of Framingham, for constructing about 6,645 feet of State highway on Podunk Road in Charlton, 2,793 feet of State highway on the same road in Sturbridge, and 21,353 feet of State highway on the same road in East Brookfield, the surface consisting of gravel. The proposal amounted to \$43,623.15. Work not yet commenced.

Bourne

November 27, 1934, contract made with Eastern Contracting Company, of Quincy, for constructing about 7,970 feet of State highway on new location in Bourne, the surface consisting of bituminous macadam and bituminous concrete. The proposal amounted to \$77,647.70. Work not yet commenced.

Bourne-Wareham

November 27, 1934, contract made with Eastern Contracting Company, of Quincy, for reconstructing about 7,167 feet of State highway on Buzzards Bay Road in Bourne and Wareham, the surface consisting of bituminous macadam. The proposal amounted to \$67,999.70. Work not yet commenced.

EXPENDITURES FOR THE CONSTRUCTION OF STATE HIGHWAYS

The expenditures for the construction of State highways in various Counties during the years were: —

Barnstable	\$85,731.52	Middlesex	\$705,091.94
Berkshire	172,619.06	Norfolk	871,217.85
Bristol	191,968.98	Plymouth	171,518.72
Essex	612,284.56	Suffolk	1,530,963.25
Franklin	1,061.16	Worcester	26,308.14
Hampden	1,481.17		
Hampshire	110,065.72		\$4,480,312.07
		Hull	12,456.50
			<hr/>
		Total	\$4,492,768.57

Details of the foregoing expenditures follow: —

Barnstable County: — Barnstable, \$18,513.32; Bourne, \$62,649.32; Yarmouth, \$4,568.88.

Berkshire County: — Great Barrington, \$368.28; North Adams, \$67,040.96; Otis, \$105,033.34; Pittsfield, \$55.19; Richmond, \$114.24; Williamstown, \$7.05.

Bristol County: — Fairhaven, \$105,635.95; Raynham, \$27,847.68; Taunton, \$58,485.35.

Essex County: — Amesbury, \$10,863.82; Newburyport, \$594,227.60; North Andover, \$2,224.92; Salisbury, \$4,968.22.

Franklin County: — Charlemont, \$188.44; Deerfield, \$436.36; Greenfield, \$436.36.

Hampden County: — Chester, \$1,481.17.

Hampshire County: — Granby, \$182.17; Huntington, \$109,883.55.

Middlesex County:—Arlington, \$394,804.44; Ashby, \$1.90; Belmont, \$56,400.66; Cambridge, \$90,814.45; Concord, \$797.68; Lincoln, \$12,208.44; Newton, \$150,064.37.

Norfolk County:—Brookline, \$221,643.02; Cohasset, \$39,204.66; Dedham, \$119,792.80; Norwood, \$47,293.88; Quincy, \$33.04; Stoughton, \$47,588.04; Wellesley, \$350,730.91; Westwood, \$44,898.46; Weymouth, \$33.04.

Plymouth County:—Hingham, \$53,230.96; Lakeville, \$7,345.93; Marshfield, \$20,947.70; Middleboro, \$10,815.14; Scituate, \$79,147.63; Wareham, \$31.36.

Suffolk County:—Boston, \$658,758.94; Revere, \$872,204.31.

Worcester County:—Oxford, \$6,467.53; Webster, \$8,062.97; West Boylston, \$2,478.95; Worcester, \$9,298.69.

EXPENDITURES UNDER THE PROVISIONS OF CHAPTER 122, ACTS OF 1931

For State Highway Construction

Auburn-Worcester . . .	\$110.21	Northboro-Shrewsbury . .	\$1,450.00
Erving . . .	4,049.80	Sharon-Norwood-Walpole . .	681.25
Foxboro-Walpole-Sharon . .	3,112.99	Uxbridge . . .	1,733.97
Framingham-Natick . . .	39,202.29	Williamstown . . .	900.00
Framingham-Southboro . .	10,022.53	Worcester-Millbury . . .	638.40
Gill-Greenfield . . .	9,857.63	Worcester-Shrewsbury . .	4,480.70

Total \$76,239.77

MAINTENANCE AND REPAIR OF STATE HIGHWAYS

(Section 13, Chapter 81, General Laws)

The expenditure under this classification covers two different types of work.
1. The ordinary maintenance work, such as, patching and surface treatment of surfaces, repairs to structures and other miscellaneous work in connection with the ordinary care and operation of the highways. 2. The reconstruction of worn-out surfaces or narrow roads with poor alignment.

The expenditures during the year in various counties were:—

Barnstable . . .	\$85,120.86	Hampshire . . .	\$76,755.12
Berkshire . . .	323,895.22	Middlesex . . .	536,925.39
Bristol . . .	309,598.32	Nantucket . . .	161.75
Dukes . . .	10,944.11	Norfolk . . .	262,712.43
Essex . . .	250,847.29	Plymouth . . .	338,397.09
Franklin . . .	272,263.37	Suffolk . . .	87,826.06
Hampden . . .	377,478.34	Worcester . . .	944,217.57

Total \$3,877,142.92

Details of the foregoing expenditures follow:—

Barnstable County.—Barnstable, \$16,717.45; Bourne, \$9,958.18; Brewster, \$2,447.86; Chatham, \$2,053.95; Dennis, \$8,469.94; Eastham, \$1,848.44; Falmouth, \$5,118.61; Harwich, \$1,519.25; Mashpee, \$1,397.63; Orleans, \$3,208.31; Provincetown, \$9,228.72; Sandwich, \$4,921.23; Truro, \$2,957.94; Wellfleet, \$2,482.80; Yarmouth, \$12,790.55.

Berkshire County.—Adams, \$543.78; Becket, \$10,890.82; Cheshire, \$3,586.00; Clarksburg, \$2,176.58; Dalton, \$7,652.29; Egremont, \$4,363.39; Florida, \$6,002.55; Great Barrington, \$9,704.77; Hancock, \$5,323.19; Hinsdale, \$2,504.94; Lanesboro, \$8,411.29; Lee, \$18,482.80; Lenox, \$7,148.78; New Ashford, \$1,156.64; New Marlboro, \$92.80; No. Adams, \$129,747.19; Otis, \$2,770.15; Pittsfield, \$42,672.49; Richmond, \$1,840.30; Sandisfield, \$2,367.51; Savoy, \$537.64; Sheffield, \$5,253.62; Stockbridge, \$21,564.16; Washington, \$1,342.53; West Stockbridge, \$202.66; Williamstown, \$20,519.00; Windsor, \$7,037.35.

Bristol County.—Acushnet, \$7,977.92; Attleboro, \$6,742.26; Berkley, \$2,869.17; Dartmouth, \$2,476.16; Dighton, \$9,336.71; Easton, \$110,075.15; Fairhaven, \$16,121.05; Fall River, \$15.59; Freetown, \$1,995.53; Mansfield, \$4,758.52; Norton, \$6,533.89; North Attleborough, \$3,733.80; Raynham, \$19,414.94; Rehoboth, \$3,095.64; Seekonk, \$9,327.74; Somerset, \$71,341.71; Swansea, \$8,540.23; Taunton, \$21,502.75; Westport, \$3,739.56.

Dukes County.—Chilmark, \$2,445.21; Edgartown, \$3,413.24; Gay Head, \$692.49; Oak Bluffs, \$357.31; Tisbury, \$707.26; West Tisbury, \$3,328.60.

Essex County.—Amesbury, \$4,659.25; Andover, \$14,624.92; Beverly, \$6,-447.97; Danvers, \$15,331.70; Essex, \$4,960.77; Gloucester, \$15,840.73; Groveland, \$926.66; Hamilton, \$9,488.34; Haverhill, \$2,966.25; Ipswich, \$21,059.95; Lawrence, \$665.28; Lynn, \$8,372.71; Lynnfield, \$4,097.82; Manchester, \$7.36; Merrimac, \$2,166.17; Methuen, \$4,357.91; Middleton, \$11,010.00; Newbury, \$33,819.91; Newburyport, \$3,925.78; North Andover, \$16,798.34; Peabody, \$8,-458.76; Rockport, \$998.59; Rowley, \$8,419.41; Salem, \$7,165.63; Salisbury, \$10,-852.68; Saugus, \$9,762.81; Swampscott, \$5,064.28; Topsfield, \$4,266.78; Wenham, \$2,559.08; West Newbury, \$11,771.45.

Franklin County.—Ashfield, \$2,167.24; Bernardston, \$4,646.14; Buckland, \$5,945.22; Charlemont, \$4,765.50; Colrain, \$2,060.85; Conway, \$150,192.48; Deerfield, \$61,995.16; Erving, \$6,145.57; Gill, \$1,216.84; Greenfield, \$6,590.78; Montague, \$9,079.78; Northfield, \$3,994.77; Orange, \$1,838.07; Shelburne, \$5,-180.51; Sunderland, \$2,851.18; Whately, \$3,593.28.

Hampden County.—Agawam, \$12,579.12; Blandford, \$1,507.76; Brimfield, \$6,402.90; Chester, \$46,156.42; Chicopee, \$4,566.74; East Longmeadow, \$1,354.14; Holland, \$80.83; Holyoke, \$3,097.81; Monson, \$1,735.87; Palmer, \$11,270.96; Russell, \$7,959.11; Southwick, \$4,198.36; Springfield, \$251,937.35; Tolland, \$51.67; Wales, \$3,282.55; Westfield, \$6,724.70. West Springfield, \$3,754.74; Wilbraham, \$10,817.31.

Hampshire County.—Amherst, \$5,301.54; Belchertown, \$3,581.21; Cummington, \$10,092.16; Easthampton, \$1,588.40; Goshen, \$2,225.51; Granby, \$3,562.15; Hadley, \$4,370.10; Hatfield, \$2,900.31; Huntington, \$6,478.08; Northampton, \$7,511.38; Southampton, \$1,985.42; South Hadley, \$13,320.67; Ware, \$9,360.77; Williamsburg, \$1,575.93; Worthington, \$2,901.49.

Middlesex County.—Acton, \$5,952.96; Arlington, \$1,782.01; Ashby, \$82,-375.14; Ashland, \$4,265.79; Ayer, \$681.36; Bedford, \$279.44; Billerica, \$13,976.44; Boxboro, \$884.07; Burlington, \$39,015.04; Chelmsford, \$5,794.83; Concord, \$8,-872.32; Dracut, \$12,606.63; Framingham, \$12,802.10; Groton, \$2,658.45; Holliston, \$2,041.59; Hudson, \$1,652.64; Lexington, \$5,465.03; Lincoln, \$2,671.38; Littleton, \$19,797.45; Lowell, \$1,473.27; Malden, \$27.89; Marlborough, \$28,-419.93; Medford, \$215.09; Melrose, \$267.10; Natick, \$6,462.97; Newton, \$17,-478.05; No. Reading, \$1,508.13; Pepperell, \$1,634.52; Reading, \$3,134.99; Shirley, \$7,347.85; Somerville, \$412.73; Stoneham, \$1,391.01; Sudbury, \$5,678.16; Tewksbury, \$7,314.53; Townsend, \$108,359.96; Tyngsboro, \$4,081.79; Waltham, \$3,182.61; Watertown, \$920.31; Wayland, \$8,581.00; Westford, \$7,750.40; Weston, \$4,764.48; Wilmington, \$2,455.12; Winchester, \$49,636.89; Woburn, \$40,851.94.

Nantucket County.—Nantucket, \$161.75.

Norfolk County.—Avon, \$654.00; Bellingham, \$595.70; Braintree, \$13,443.94; Brookline, \$113.48; Canton, \$8,379.79; Cohasset, \$1,654.21; Dedham, \$14,401.88; Dover, \$2,342.73; Foxborough, \$4,636.20; Franklin, \$1,449.69; Holbrook, \$9,081.20; Milton, \$11,428.94; Needham, \$14,676.04; Norfolk, \$187.11; Norwood, \$6,478.47; Plainville, \$3,895.32; Quincy, \$1,010.57; Randolph, \$3,019.22; Sharon, \$684.24; Stoughton, \$115,084.61; Walpole, \$4,017.04; Wellesley, \$14,535.67; Westwood, \$6,711.53; Weymouth, \$16,958.46; Wrentham, \$7,272.39.

Plymouth County.—Abington, \$3,122.02; Bridgewater, \$5,247.12; Brockton, \$9,956.46; Duxbury, \$2,796.73; East Bridgewater, \$568.31; Hanover, \$2,575.16; Hingham, \$7,979.36; Hull, \$3,030.42; Kingston, \$1,721.23; Lakeville, \$10,542.08; Marion, \$3,308.86; Marshfield, \$12,816.11; Mattapoisett, \$68,161.37; Middleborough, \$11,664.16; Norwell, \$1,305.54; Pembroke, \$1,564.04; Plymouth, \$6,076.65; Rochester, \$1,577.31; Rockland, \$1,309.13; Scituate, \$117,343.00; Wareham, \$62,889.48; West Bridgewater, \$1,328.52; Whitman, \$1,514.03.

Suffolk County.—Boston, \$38,429.69; Chelsea, \$625.33; Revere, \$48,771.04.

Worcester County.—Ashburnham, \$5,613.03; Athol, \$5,588.81; Auburn, \$151,-415.70; Barre, \$6,390.58; Blackstone, \$3,565.40; Brookfield, \$1,165.20; Charlton, \$145,376.56; Douglas, \$669.71; Dudley, \$6,506.87; East Brookfield, \$1,866.08; Fitchburg, \$2,265.21; Gardner, \$2,278.05; Grafton, \$4,650.16; Hardwick, \$701.92; Harvard, \$3,711.54; Holden, \$10,397.29; Hopedale, \$1,916.81; Lancaster, \$2,-

077.93; Leicester, \$15,137.75; Leominster, \$854.17; Lunenburg, \$3,650.47; Mendon, \$887.25; Milford, \$1,549.93; Millbury, \$10,566.07; Millville, \$4,893.60; New Braintree, \$155.03; North Brookfield, \$599.29; Northborough, \$10,170.48; Northbridge, \$2,670.45; Oakham, \$8,645.17; Oxford, \$55,083.87; Paxton, \$5,697.93; Petersham, \$6,245.85; Phillipston, \$1,654.52; Princeton, \$778.49; Rutland, \$9,735.49; Shrewsbury, \$12,930.27; Southborough, \$7,623.71; Southbridge, \$1,422.60; Spaulding, \$1,934.11; Sterling, \$161,099.43; Sturbridge, \$3,760.03; Sutton, \$4,398.57; Templeton, \$85,972.01; Upton, \$2,220.96; Uxbridge, \$10,395.36; Warren, \$3,585.15; Webster, \$3,343.67; West Boylston, \$123,021.82; West Brookfield, \$1,248.38; Westborough, \$7,463.07; Westminster, \$7,112.35; Winchendon, \$2,417.30; Worcester, \$9,136.12.

Miscellaneous expenditures are as follows: —

Truck repairs	\$8,716.80	
Truck operation	36,057.32	
Truck plow repairs	46,149.34	
Tractor repairs	5,898.34	
Tractor operation	35,559.07	
Tractor plow repairs	39,628.62	
Snow fence	2,872.95	
Expenditures under towns	741,819.42	
		\$916,701.86
Warning signs	\$14,867.16	
Direction signs	51,970.70	
Regulatory signs	363.51	
Control signals	39,334.29	
Traffic survey	20,855.40	
Traffic permits	1,281.11	
		128,672.17
Somerset Bridge	\$30,038.15	
Newburyport Bridge	5,220.12	
Fairhaven-New Bedford Bridge	19,625.75	
Quincy-Weymouth Bridge	5,048.37	
		59,932.39
Detour bulletins		2,285.15
Geodetic survey		1,188.02
Total of miscellaneous expenditures		\$1,108,779.59

REMOVAL OF SNOW AND ICE FROM STATE HIGHWAYS AND CERTAIN TOWN ROADS

The authority of the Department relative to the removal of snow and ice from State highways has been provided by section 19, chapter 81, General Laws, as amended.

The co-operation of the Department with officers of cities, towns and counties, in keeping open and reasonably passable for vehicles during the winter months such highways as may be selected by the Department is provided for in section 11, chapter 84, General Laws, as amended.

In accordance with the provisions of these laws, the Department selected 1,810 miles of highways on the principal routes of travel, 1,642 miles of which are State highways and 168 miles town highways.

The work of snow removal on these routes is performed in a large part by the trucks and tractors owned and operated by the Department, but certain towns and cities, by agreement with the Department, perform part of the work of snow removal on the portions of the routes within their limits. All of this work is done under the direction and supervision of the Department.

The expenditures by the Department for snow removal during the year under the provisions of both the above-mentioned laws, amounted to a total of \$916,701.86, which includes the cost of maintenance and repair of the equipment, actual cost of plowing and purchase of materials, such as calcium chloride and sand for use on icy conditions of the road surfaces, also the purchase of such equipment as is used entirely for snow removal work.

UNIFORM TRAFFIC SIGNS, LIGHTS, MARKINGS, SIGNAL SYSTEMS AND REGULATIONS

Authority and jurisdiction relating to the erection of traffic signs, lights, marking, signal systems and regulations on highways within the Commonwealth, was placed in the Department of Public Works by chapter 257 of the Acts of 1928. The Department is thereby enabled to insure that all traffic control signals to be erected by the municipalities shall conform to standards adopted by the Department and co-operates with the cities and towns for the purpose of properly locating and operating such signals. All through ways desired by the municipalities must first be approved by the Department before such may become effective.

In order to secure uniformity in the matter of traffic control, the Department has issued four bulletins which present the standards required to be met by the cities and towns of the State for the installation and maintenance of traffic signs, signals and devices and traffic regulations for the control of traffic.

TRAFFIC CONTROL SIGNALS AND REGULATIONS APPROVED

During the year the Department has issued permits to cities and towns for the following traffic control features:

	In 1934	Previously	Total to date
Traffic signals, at intersections	37	817	854
Traffic beacons	3	223	226
Through ways	2	108	110
Traffic signs and markings	17	223	240
Traffic rules and regulations	55	350	405
Isolated stop signs	80	202	282

DIRECTION SIGNS, ROUTE MARKERS, WARNING SIGNS AND TRAFFIC CONTROL SIGNALS ERECTED BY DEPARTMENT

The Department has given a great deal of study to the determination of the important routes of travel for the purpose of marking and furnishing direction signs as aids for traveling.

The placing of route numbers and direction signs at points of advantage on these designated highways is done by the Department both on State highways and on city and town ways, permission for the latter being obtained from the local authorities. Warning signs and traffic control signals which are erected and maintained by the Department are placed only on State highways.

At locations where the hazard was particularly great, and where traffic signals could not be used, neon tubes forming the legend were erected. This type of sign is especially advantageous on foggy nights, since it has greater penetrating power than any light or reflector unit.

The manufacture of many of these signs and the erection and maintenance of all of these signs and signals are part of the highway maintenance activities.

During the year the following signs were delivered to the districts:

	In 1934	Previously	Total
Warning signs	2,681	8,539	11,220
Regulatory signs	722	3,989	4,711
Directional signs	1,466	4,582	6,048
Route markers	5,526	22,822	28,348
Signals	27	86	113

TRAFFIC ACCIDENT STUDIES

Accident statistics for the year 1933 were completed, showing detailed information relating to accidents on all numbered and unnumbered State highway routes.

Studies were made at numerous intersections and at other places along the highways of hazardous conditions, as evidenced by the number and type of accidents occurring at these places. These studies were used in connection with further investigations for the correction of hazardous conditions.

Other general studies of larger scope were either started or completed. Among these were studies on the Southwest Connection, Route No. 3 in Braintree, and

Route No. 6 from Orleans to Provincetown, as well as general studies on fog conditions, illumination of rural highways, and studies comparing various types and widths of roads.

ROADSIDE MAINTENANCE AND DEVELOPMENT

Roadside maintenance as related to the care and planting of trees and other growth on the areas within the highway layouts and adjacent to the traveled surface of State highways has been one of the activities of this Department for over thirty-eight years. This work has been developed more rapidly during recent years because it has become recognized that systematic and intelligent control and development of all features of the roadside conditions are of value not only from the point of view of attractiveness in appearance but as a safety factor as well.

Specially trained men under competent supervision are employed to do this work, which not only includes the removal and trimming of trees, brush, and other undesirable growth, but also the selection and planting of new trees, shrubs and vines suitable for the various locations where such planting is desired. Trimming at curves and intersections along the highway insure safe operating conditions for motor vehicles, and the clearing of unnecessary growth and special trimming at particular points, afford attractive vistas at scenic locations.

A group of inspectors is maintained to supervise the trimming of trees that may be necessary during the construction of light and power transmission lines, as well as the yearly trimming for clearance of wires.

A nursery is maintained at Sudbury where a large proportion of the trees and shrubs are grown for use on State highways under the control of the Department.

During the year 5,024 trees were planted, making a total for the past thirty years of 69,400 trees planted; and this year 9,765 shrubs have been planted throughout the State; in addition, 7,041 small pines have been planted on bare slopes and ragged cuts.

A large number of men have been employed for a period of approximately three months on roadside improvement work, such as cutting undesirable growth, trimming and pruning trees, grading and seeding unsightly slopes and other miscellaneous work, to improve the æsthetic value of our roadsides.

In addition to the work carried on under the regular maintenance appropriations of the Department, there was made available from funds of the Federal Government, the sum of approximately \$33,000, which was used to improve the roadsides along newly constructed highways in Newton, Wellesley, Natick, Framingham, Canton, Dedham, Westwood, Needham, Stockbridge and Lee. As the trees and plants used in these cases, as well as those in which State funds were used, were necessarily small, their value will be increased as time goes on, and in the course of a few years will cause these highways to make a very much improved appearance.

SIDEWALK CONSTRUCTION ON STATE HIGHWAYS

Under Chapter 439 of the Acts of 1931, the Department constructed sidewalks as follows:

Hingham	4,300 feet
Brimfield	2,200 "
Athol	7,000 "

In each case the town in which these sidewalks are located agreed to maintain the sidewalk.

FEDERAL AID IN CONSTRUCTING HIGHWAYS

Statements as to the acts of Congress and of the Massachusetts Legislature with respect to co-operation between the United States and the states in the construction and maintenance of highways, including the Federal Highway Act approved November 9, 1921, may be found in the annual reports of this Department for the years 1920-1927, inc.

A detail statement of Federal Aid allotments and projects for Massachusetts appears in the Department of Public Works Report for the fiscal year 1933. Additions or alterations for the fiscal year 1934 and a summary of the several allotments to date appear as follows:

Total amount of Regular Federal Aid allotted for the period from June 30, 1916, to June 30, 1933—\$18,523,440.00.

In addition to the above, allotments as follows were made:

1931 "Federal Emergency Advance Funds"	\$1,141,460.00
1932 "Federal Emergency Relief and Construction Act"	1,716,612.00
1933 "National Recovery Funds"	6,597,100.00
1934 "Hayden-Cartwright Bill" (Act of June 18, 1934)	3,350,474.00

The total amount allotted to Massachusetts from 1916 to November 30, 1934, is \$31,329,086.00. This embraces all types of Federal Aid, including the entire amount allotted under the "Hayden-Cartwright Bill."

There were 24 projects prepared in addition to those shown in the report of the Department of Public Works for 1933. The length of the various Federal Aid Road and Bridge Projects in this State, from the commencement of work of this character to November 30, 1934, inclusive, is 1,035.892 miles, an increase of 19.877 miles over 1933. In addition to this there were 26.621 miles of landscaping projects of which 19.796 miles were on old Federal projects and 6.825 miles were on new Federal projects. The total length of Federal Aid projects, including new Landscaping projects, is 1,042.717 miles, and this length divided according to the various counties is as follows:

Barnstable, 99.820 miles	Hampden, 56.731 miles
Berkshire, 127.571 miles	Hampshire, 54.300 miles
Bristol, 87.219 miles	Middlesex, 104.844 miles
Dukes, 3.117 miles	Norfolk, 88.351 miles
Essex, 81.776 miles	Plymouth, 108.179 miles
Franklin, 48.691 miles	Suffolk, 4.290 miles
Worcester, 176.829 miles	

STATEMENT OF ACTIVE FEDERAL AID PROJECTS FOR THE FISCAL YEAR ENDING NOVEMBER 30, 1934

The following "E" Projects were financed in part from regular Federal Aid and the balance (\$1,716,612) from the Federal Emergency Relief and Construction Act of 1932.

Project Number	City or Town	Miles	Amount of Federal Funds Allotted	Amount of Federal Funds Received
E-12	Ipswich	2.081	\$43,939 83	\$43,939 83
E-21A	Hancock-Pittsfield	2.773	126,866 39	126,866 39
E-21B	Hancock	1.098	72,965 98	72,965 98
E-122F	Barnstable-Yarmouth	2.395	81,462 14	81,462 14
E-134D	Oakham-Rutland	3.493	64,528 59	60,604 79
E-170A	Cohasset-Hingham	3.151	259,311 89	254,433 84
E-170B	Cohasset-Scituate	5.808	199,194 29	157,929 33
E-177D	Yarmouth	4.818	111,138 24	111,138 24
E-211D	Wellesley (West)	2.272	243,119 63	243,119 63
E-211E	Wellesley (Center)	1.108	382,096 18	382,096 18
E-235A	Wellesley (East)	1.360	126,952 50	126,952 50
E-236	Lakeville-Middleboro-Raynham-Taunton	6.344	221,797 81	219,779 15
E-237A	Oxford-Webster	3.375	129,239 97	129,239 97
E-238B	Belchertown	2.812	54,212 10	54,212 10
Totals, "Emergency Projects"		42.888	\$2,116,885 54	\$2,064,800 07

The following projects were financed from Regular Federal Aid:

R-106	Bourne-Falmouth	6.458	\$78,876 03	\$78,876 03
211C	Framingham-Natick	4.061	100,200 00	100,200 00
218	Canton-Dedham-Westwood	3.947	177,698 65	177,698 65
226C	Shrewsbury-Worcester	3.015	86,713 23	86,713 23
229A	Dedham-Westwood-Needham	3.448	96,488 72	96,488 72
229B	Needham-Wellesley	3.653	93,783 11	93,783 11
231B	Dedham-Westwood-Norwood	3.566	150,074 96	150,074 96
Totals		28.148	\$783,834 70	\$783,834 70

The following "NR Projects" were financed from National Recovery Funds and regular Federal Aid Funds released from completed projects:

NRH-56	Stoughton	2.188	\$117,194 77	\$97,760 24
NRH-57	Winchester	1.031	25,346 42	16,654 20
NRM-57	Woburn	1.995	28,240 19	22,682 70
NRH-57B	Winchester	0.885	29,680 86	21,807 90

Project Number	City or Town	Miles	Amount of Federal Funds Allotted	Amount of Federal Funds Received
NRH-78	Burlington	3.760	\$45,171 06	\$37,331 30
NRH-89A	Easton	1.553	40,558 82	33,802 95
NRH-89C	Easton	1.392	40,851 25	29,291 90
NRM-126A	Newburyport	1.361	571,735 46	319,207 29
NRM-130B	Auburn	0.443	103,192 87	87,148 83
NRM-131C	Springfield (Force Act)	3.426	190,947 61	165,988 87
NRH-138B	Chester	0.307	52,686 97	22,896 00
NRH-143B	Fairhaven	0.726	64,430 41	54,454 35
NRM-170C	Quincy-Weymouth (Contract 1, 2, 3)	0.521	1,883,586 65	612,235 66
NRH-172B	Sterling-West Boylston	4.337	192,781 43	173,927 55
NRH-173C	Lanesboro	0.347	17,983 98	17,983 98
NRM-173D	Pittsfield	1.462	53,896 49	53,896 49
NRH-174B	Scituate-Marshfield	1.168	150,757 25	121,745 19
NRH-184A	Charlton	2.848	67,983 41	55,028 50
NRH-184C	Charlton-Oxford	2.609	48,936 52	36,982 00
NRH-188F	Ashby-Townsend	4.023	133,967 50	118,133 80
NRH-189E	Mattapoisett (Force Act)	1.583	69,419 79	60,482 43
NRH-189F	Wareham	1.556	57,224 03	54,650 30
NRH-194B	Templeton	3.002	72,439 89	63,354 50
NRH-199C	Newbury	3.047	90,975 44	90,975 44
NRM-235B	Brookline-Newton	1.089	210,478 94	184,895 94
NRH-240B	West Boylston	0.594	15,630 28	0 00
NRM-241A	East Boston-Revere	2.294	713,586 36	591,768 50
NRM-241B	Revere	1.044	250,293 28	130,693 30
NRM-242A	Arlington-Belmont-Cambridge	1.557	597,218 35	462,840 08
NRH-243A	Amesbury	0.795	39,727 33	33,693 52
NRM-244A	Boston (Hyde Park)	0.296	37,934 71	27,993 23
NRS-245A	Huntington	5.313	141,633 69	122,644 75
NRS-246	Conway-Deerfield	6.193	225,494 28	165,114 40
NRS-247	Otis	3.726	102,613 44	93,245 10
NRM-248A	North Adams	0.813	176,360 52	135,730 98
NRM-249	Worcester	0.197	104,345 23	0 00
Totals		69.481	\$6,765,305 48	\$4,317,042 17

The following Landscaping Projects (Roadside Improvement) were financed according to the prefix letter classification:

Project Number	City or Town	Miles	Amount of Federal Funds Involved
NRH-211C	Framingham-Natick	4.008	\$3,054 85
NRH-211D	Wellesley (West)	2.272	2,070 64
NRH-211E	Wellesley (Center)	1.108	1,886 84
NRH-211F	Framingham-Natick	1.595	1,579 11
218	Canton-Dedham-Westwood	3.947	8,182 41
229A	Dedham-Westwood-Needham	3.448	2,674 87
229B	Needham-Wellesley	3.653	5,965 89
NRH-234A	Lee-Stockbridge	2.010	4,234 25
NRH-235A	Wellesley (East)	1.360	3,703 97
NRH-235C	Wellesley (East)	0.463	510 13
NRM-235D	Newton	2.757	5,562 67
Totals		26.621	\$39,425 43

The following Traffic Signal Installation Projects were financed from National Recovery Funds:

NRM-126A	Newburyport		\$640 47
NRM-130B	Auburn		2,190 99
NRM-241B	Revere		1,639 04
Totals			\$4,470 50

The following "1935" Projects are financed under the provisions of the Act of June 18, 1934 (Hayden-Cartwright Bill) and will take up the \$3,350,474 allotted to Massachusetts:

NRM-91 (1935)	Lowell	0.968	\$52,248 24
NRH-125C (1935)	Bourne-Wareham	1.417	82,139 67
NRH-176B (1935)	Bourne	1.509	(Roadway Portion) 85,632 47
NRH-250 (1935)	Dracut-Methuen	5.974	262,438 99
NRH-251A (1935)	Dedham	1.043	210,346 34
NRM-251B (1935)	Boston	0.656	117,675 53
Total (Obligated)		11.567	\$810,481 24

Other "1935" Projects to which funds have not yet been allotted:

NRM-69 Rev. (1935)	Haverhill	0.8	\$55,000 00 Est.
NRH-73 (1935)	Southwick	6.874	166,019 53 "
NRH-125C (1935)	Bourne-Wareham (Bridge Portion)		68,478 30 "
NRH-134E (1935)	Rutland	0.833	21,315 25 "
NRM-155C (1935)	Westfield	0.677	54,864 97 "
NRH-173E (1935)	Cheshire	2.200	175,812 01 "
NRM-208C (1935)	Waltham	0.284	224,838 52 "

Project Number	City or Town	Miles	Amount of Federal Funds Involved
NRS-247 Rev. (1935)	Otis-Blandford	3.508	\$65,966 39 Est.
NRS-252 (1935)	Blandford	1.953	49,403 20 "
NRS-253 (1935)	Billerica-Chelmsford	2.6	120,000 00 "
NRS-254 (1935)	Athol-Orange	2.96	225,000 00 "
NRS-255 (1935)	Andover	4.74	190,000 00 "
	Millbury	2.1	255,000 00 "
	Boston-Brookline	0.1	290,000 00 "
	Montague	4.5	250,000 00 "
	Miscellaneous Landscaping		33,600 00 "
Total (Estimated)		34.129	\$2,245,298 17 Est.

Summary of New Federal Projects Active in 1934. (Not supplemental to foregoing lists.)

Project Number	Name	Miles	Federal Funds Involved	Code Explanation
NRM-91 (1935)	Lowell	0.968	\$52,248 24	A.
NRH-125C (1935)	Bourne-Wareham	1.417	82,139 67	A. E.
NRM-126A	Newburyport	1.361	572,375 93	A. B.
NRM-130B	Auburn	0.443	105,383 86	A. B.
NRH-143B	Fairhaven	0.726	64,430 41	A.
NRH-176B (1935)	Bourne	1.509	85,632 47	A.
NRH-211C	Framingham-Natick	4.008	3,054 85	D.
NRH-211D	Wellesley (West)	2.272	2,070 64	D.
NRH-211E	Wellesley (Center)	1.108	1,886 84	D.
NRH-211F	Framingham-Natick	1.595	1,579 11	C.
218	Canton-Dedham-Westwood	3.947	8,182 41	D.
229A	Dedham-Westwood-Needham	3.448	2,674 87	D.
229B	Needham-Wellesley	3.653	5,965 89	D.
NRH-234A	Lee-Stockbridge	2.010	4,234 25	C.
NRH-235A	Wellesley (East)	1.360	3,703 97	D.
NRM-235C	Wellesley (East)	0.463	510 13	C.
NRM-235D	Newton	2.757	5,562 67	C.
NRM-241B	Revere	1.044	251,932 32	A. B.
NRS-247	Otis	3.726	102,613 44	A.
NRM-248A	North Adams	0.813	176,360 52	A.
NRM-249	Worcester	0.197	104,345 23	A.
NRH-250 (1935)	Dracut-Methuen	5.974	262,438 99	A.
NRH-251A (1935)	Dedham	1.043	210,346 34	A.
NRM-251B (1935)	Boston	0.656	117,675 53	A.
Totals		46.498	\$2,227,348 58	

Code reference:—A—Highway Project. B—Includes Traffic Signals. C—Landscaping (new F. A. Project). D—Landscaping (old F. A. Project.) E—Bridge portion excluded.

Note:—This 46.498 miles includes 19.796 miles of Landscaping on Old Federal projects. The net increase in length of Federal Aid Projects is 26.702.

EMERGENCY PUBLIC WORKS CONSTRUCTION

(Chapter 365, Acts of 1933)

R 1	Lynn-Revere	\$351,187 36
R 4	Agawam	34,329 05
R 5-1	Arlington-Belmont-Lexington	281,568 62
R 5-2	Lexington-Lincoln	461,863 29
R 5-3	Lexington	34,426 78
R 6	Ashland-Holliston	27,514 90
R 7	Quincy-Braintree	15 33
R 8	Brookline	193,306 99
R 12	Lawrence-North Andover	41,922 14
R 13	Otis	331 46
R 14	Palmer	83,265 00
R 16	Revere (North Shore Road)	183,309 36
R 17	Saugus	15,415 38
R 18	Ware	38,493 84
R 20	Winchendon	12,985 02
R 22	Blandford-Russell	30,358 35
R 26	Charlemont	119,763 74
R 27	Charlton-Sturbridge	113,525 10
R 29-1	Concord-Lincoln	223,330 08
R 29-2	Concord By-Pass	222,833 69
R 32	Easton-Raynham-Taunton	191,760 24
R 33	Fitchburg-Ashby	112,985 61
R 34	Essex-Gloucester	176,985 95
R 35	Great Barrington	25,760 26
R 38	Northampton-Hatfield	139,298 41
R 39	Revere (Bridge)	376 10
R 40	Richmond	56,029 90
R 43	Sterling-Leominster	155,437 42
R 44	Brimfield-Sturbridge	180,507 25
R 46	Lowell-Tyngsboro	128,786 04
R 49	Charlton-East Brookfield	271 54
R 51	Randolph-Braintree	41,715 66
R 54	Yarmouth-Dennis	1,034 30
Total		\$3,680,694 16

BRIDGES

During the year the Department has prepared designs and plans for, and done other work relating to, bridges throughout the Commonwealth. The various cities and towns, the localities therein, the character of the structure and other details are as follows:

BRIDGES AND STRUCTURES BUILT OR CONTRACTED FOR
Cities and Towns, Locality and Character of Structure

- Auburn — Oxford Street over Kettle Brook; one 40-foot span, steel stringers with reinforced concrete floor.
- Auburn — Southbridge Street over tracks of New York, New Haven & Hartford Railroad; one 120-foot span, steel through girder with reinforced concrete floor.
- Auburn — Oxford Street over Canal; one 14-foot span, reinforced concrete slab.
- Bourne — Approach to new Bourne bridge over Cape Cod Canal; three 33-foot spans, and two 38-foot spans, reinforced concrete beam and slab, and one 57-foot span steel beams with reinforced concrete floor; total length 241 feet.
- Braintree — Granite Street over Farm Brook; one 14-foot span, reinforced concrete slab.
- Buckland — Smith Bridge over Clesson Brook; one 35-foot span, steel stringers with reinforced concrete floor.
- Concord — Concord Highway over tracks of Boston and Maine Railroad; four 31-foot spans, reinforced concrete beam and slab and one 40-foot span, steel stringers with reinforced concrete floor, total length 169 feet.
- Concord — Concord Highway over Sudbury River; one 84-foot span, reinforced concrete arch with stone facing.
- Concord — Concord Highway over tracks of Boston and Maine Railroad; four 21-foot spans, reinforced concrete beam and slab and one 38-foot span, steel stringers with reinforced concrete floor.
- Dennis — Main Street at Yarmouth line, over Bass River; thirty 18-foot spans, two 25-foot spans and one 35-foot span, reinforced concrete pile trestle with reinforced concrete floor, total length 625 feet.
- Dover — Bridge Street at Sherborn line, over Charles River; six 16-foot spans, timber pile bridge with reinforced concrete floor, total length 96 feet.
- Halifax — Thompson Street over Wenatuxet River; six 10-foot spans and one 14-foot span, timber pile bridge with reinforced concrete floor, total length 74 feet.
- Halifax — Thompson Street over Bartlett's Brook; four 10-foot spans and one 14-foot span, timber pile bridge with reinforced concrete floor, total length 54 feet.
- Holland — Pond Road over outlet of Holland Pond; one 43-foot span, steel stringers with reinforced concrete floor.
- Lexington — Concord Road over Waltham Street; one 60-foot span, reinforced concrete rigid frame bridge.
- Lynn — at Revere line, General Clarence R. Edwards Bridge over Saugus River; two 50-foot spans, eight 100-foot spans, two 106-foot spans and one 135-foot draw span with 100-foot clear opening, steel plate girder bridge on granite faced concrete piers; total length 1,247 feet.
- Newburyport — Traffic Road over Merrimac Street; two 32-foot spans and one 77-foot span, steel plate girders with reinforced concrete floor, and twelve 32-foot spans, reinforced concrete beam and slab; total length 531 feet.
- Newburyport — High Street over Traffic Road; one 57-foot span, steel rigid frame bridge with reinforced concrete floor, and retaining walls.
- Newburyport — Washington Street over Traffic Road; one 55-foot span, reinforced concrete rigid frame bridge and retaining walls.
- North Adams — Greylock Bridge, Williamstown Road over Hoosic River; one 87-foot span, steel pony truss with reinforced concrete floor.
- North Adams — Braytonville Bridge, Williamstown Road over Hoosic River; one 128-foot span, steel pony truss with reinforced concrete floor.
- Norwood — Nahatan Street extension under tracks of New York, New Haven & Hartford Railroad; one 65-foot span, reinforced concrete rigid frame bridge.

- Oak Bluffs — Lagoon bridge over Lagoon Pond at Tisbury line; nineteen 15-foot spans, timber pile bridge with reinforced concrete floor, one 19-foot steel girder span with reinforced concrete floor at approach to draw span, and an electrically operated steel draw span with open mesh steel decking, 30-foot clear channel opening, total length 351 feet.
- Otis — Blandford Road over West Branch of Farmington River; one 30-foot span, reinforced concrete beam and slab bridge.
- Otis — Blandford Road over a brook; one 17-foot span, reinforced concrete slab.
- Quincy — Fore River Bridge over Weymouth Fore River at Weymouth line; one 58-foot span, steel beams, one 83-foot span steel girders, five 90-foot spans steel girders, and two 212-foot spans steel trusses with reinforced concrete floor, one 219-foot span steel two-leaf rolling lift draw with 175-foot clear channel opening, granite faced concrete foundations; total length of bridge 1,324 feet and of retaining walls 1,068 feet.
- Randolph — North Street over tracks of New York, New Haven & Hartford Railroad; one 42-foot span, steel beams with reinforced concrete floor.
- Revere — Traffic Road over connection to Revere Beach Boulevard and tracks of Boston, Revere Beach and Lynn Railroad; two 60-foot spans, two 99-foot spans and one 121-foot span, steel plate girders with reinforced concrete floor.
- Revere — Tunnel Road over narrow gauge tracks of National Fireproofing Company; one 11-foot span, reinforced concrete box culvert.
- Revere — Under Tunnel Road; three 19-foot oil pipe and pedestrian tunnels of reinforced concrete.
- Sheffield — Berkshire School Road over Schenob Brook; one 25-foot span, steel beams with reinforced concrete floor.
- Stoughton — Washington Street over tracks of New York, New Haven & Hartford Railroad one 90-foot span, through steel girders with reinforced concrete floor.
- Ware — West Street over Muddy Brook; one 24-foot span, reinforced concrete beam and slab.
- Winchester — Washington Street over Aberjona River; one 20-foot span, reinforced concrete slab.
- Worcester — Cambridge Street over tracks of Boston and Albany Railroad; one 96-foot span, through steel girders with reinforced concrete floor.

ALTERATIONS, REPAIRS, AND EXTENSIONS TO BRIDGES AND STRUCTURES MADE OR CONTRACTED FOR

- Auburn — Southbridge Street over Dunn's Pond Outlet; one 16-foot span, reinforced concrete beam and slab extension to existing bridge.
- Belchertown — Ware Road over Jabish Brook; one 17-foot span, reinforced concrete slab extension to existing bridge.
- Charlemont — Mohawk Trail; extensions to eight bridges: over Mill Brook, Avery Brook, Wilder Brook, Rice Brook, Patch Brook, and three other brooks.
- Colrain — Center bridge over North River; repairs to pier.
- Concord — Elm Street over Assabet River; one 75-foot span, reinforced concrete arch extension to existing arch.
- Dracut — Fence on structure over Richardson Brook.
- East Bridgewater — Plymouth Street over Satucket River; three 13-foot spans, reinforced concrete slab extension to existing bridge.
- Essex — Gloucester Road over Salt Creek; one 6-foot span, reinforced concrete slab extension to existing culvert.
- Fall River — Brightman Street bridge over Taunton River at Somerset line; repairs to fender pier and painting of steel in superstructure.
- Fitchburg — Ashby Road over Fallulah Brook; one 27-foot span, reinforced concrete beam and slab extension to existing bridge.
- Hatfield — West Street over Running Gutter Brook; one 17-foot span, reinforced concrete slab extension to existing bridge.
- Leominster — Sterling Road over Fall Brook; one 18-foot span, reinforced concrete slab extension to existing bridge.
- North Adams — Williamstown Road over Notch Brook; one 20-foot span, reinforced concrete slab extension to existing bridge.

- North Adams — Williamstown Road over Tail Race; one 28-foot span, reinforced concrete arch extension to existing arch.
- Norton — Copper Works Bridge over Wading River; one 46-foot span, steel stringers with timber floor extension to existing bridge.
- Southbridge — East Main Street over Raceway; one 25-foot span, steel stringers with reinforced concrete floor extension to existing bridge.
- Sterling — Leominster Road over Wekepeke Brook; one 18-foot span, reinforced concrete slab extension to existing bridge.
- Sturbridge — Brimfield Road over Long Pond Reservoir; three 12-foot spans, reinforced concrete slab extension to existing bridge.
- Ware — Palmer Road over Flat Brook; one 16-foot span, reinforced concrete slab extension to existing bridge.
- Wareham — Point Independence Bridge over Onset Bay; repairs to concrete arches.

CONTEMPLATED BRIDGES AND STRUCTURES

Plans, Studies or Estimates Made

Cities and Towns, Locality and Character of Structure

- Beverly — Grade separation, Paradise Crossing over tracks of Boston and Maine Railroad.
- Boston — Grade separation, Jamaicaaway over Huntington Avenue.
- Boston — At Milton line, new bridge over Neponset River.
- Boston — Grade separation at Washington Street and Arborway.
- Bourne — At Wareham line, widening Cohasset Narrows bridge.
- Brookline — Grade separation, Worcester Turnpike at Brookline Village.
- Brookline — Grade separation, Worcester Turnpike over Cypress Street.
- Cheshire — New bridge, North Street over Bassett Brook.
- Dartmouth — New bridge at Westport Factory.
- Dedham — New bridge, Providence Turnpike over Wigwam Brook.
- Dedham — New bridge, Providence Turnpike over Mother Brook.
- Edgartown — New bridge, Katama Road over Mattakesett Creek.
- Florida — At Savoy line, widening bridge on Mohawk Trail over Cold River.
- Gill — At Montague line, new bridge near Turner's Falls.
- Greenfield — At Montague line, new bridge to replace White suspension bridge.
- Greenfield — At Montague line, new bridge to replace Montague City bridge.
- Holyoke — New bridge, Northampton Road under tracks of New York, New Haven & Hartford Railroad.
- Lynnfield — Grade separation, northern circumferential route and Newburyport Turnpike.
- Manchester — New bridge over Manchester Harbor.
- Millbury — New bridge, proposed Worcester-Providence Road over Blackstone River.
- Millbury — New bridge, proposed Worcester-Providence Road over tracks of New York, New Haven & Hartford Railroad.
- Millbury — Grade separation, proposed Worcester-Providence Road at Elm Street.
- Millville — New bridge, Central Street over Blackstone River.
- Milton — Grade separation, Canterbury Street extension over tracks of New York, New Haven & Hartford Railroad.
- New Marlborough — New bridge, Great Barrington Road over Konkapot Brook.
- Newton — At Weston line, new bridge, Northern Circumferential Highway over Charles River.
- Newton — At Wellesley line, new bridge, proposed road over Charles River.
- Peabody — Grade separation, Newburyport Turnpike at Lowell Street.
- Revere — New bridge, Tunnel Road over tracks of Boston and Maine Railroad.
- Saugus — Grade separation, Newburyport Turnpike at Main Street.
- Saugus — Grade separation, Newburyport Turnpike under Walnut Street.
- Sheffield — New bridge, proposed cut-off over tracks of New York, New Haven & Hartford Railroad.
- Southwick — New bridge, College Highway over Uncle Oliver's Brook.
- Southwick — New bridge, College Highway over a culvert.

- Sudbury — Widening existing bridge, Boston Post Road over Parmenter's Mill Pond.
- Waltham — New bridge, Main Street over tracks of Boston and Maine Railroad.
- Weston — Northern circumferential route over South Avenue.
- Weston — Northern circumferential route over Weston Aqueduct.
- Weston — Northern circumferential route under tracks of Boston and Maine Railroad, Central Massachusetts Division.
- Weston — Northern circumferential route over tracks of Boston and Maine Railroad, Fitchburg Division.

Examinations, Reports, Estimates, etc., at Request of Counties, Cities and Towns
 Barre — Canal Bridge over Ware River Canal, examination of plans for new bridge.

Bedford — At Carlisle line, bridge over Concord River, estimate for repairs.

Belchertown — At Palmer line, bridge on Depot Street over Swift River, report on condition.

Bridgewater — At Middleborough line, Vernon Street over Taunton River, estimate for new bridge.

Bridgewater — At Middleborough line, Titicut Street over Taunton River, estimate for new bridge.

Brookfield — Fiskdale Road over Quaboag River, estimate for new bridge.

Brookfield — Charlton Road over Dunn Brook, examination of plans for new bridge.

Concord — Lowell Road over Concord River, estimate for widening Red Bridge.

Dartmouth — Padanarum Village over Apponagansett River, estimate for new bridge.

Ipswich — Argilla Road over Labor-in-vain Creek, estimate for new bridge.

Leicester — River Street over Greenville Reservoir, estimate for new bridge.

Leicester — Rawson Street over Cedar Meadow Pond, estimate for new bridge.

Millville — Central Street over Blackstone River, estimate for new bridge.

North Brookfield — Spencer Road over Lake Lashaway, examination of plans for new bridge.

Northbridge — Sutton Road over Blackstone River, report on existing bridge and estimate for new bridge.

Northbridge — Mendon Road over West River, estimate for new bridge.

Palmer — Whipple's Bridge over Ware River, estimate for replacing structure.

Palmer — Forest Lake Bridge over Ware River, estimate for repairs and estimate for replacing structure.

Saugus — Elm Street over Saugus River, estimate for new bridge.

Saugus — Ballard Street over Tidal Creek, estimate for new bridge.

Templeton — Otter River Road over Otter River, examination of plans for new bridge.

Uxbridge — Depot Street over Mumford River, report on condition of bridge.

Uxbridge — Middle bridge over Blackstone River, report on condition of bridge.

Uxbridge — Calumet Bridge over Blackstone River, report on condition.

Uxbridge — Hecla Bridge over Blackstone River, report on condition.

Winchester — Main Street over outlet to Wedge Pond, estimate for new bridge.

Examinations, Reports, Estimates, etc., by direction of the Department

Agawam — At West Springfield line, bridge over Westfield River, estimate for repairs.

Boston — Commonwealth Pier, report on allowable truck loading.

Greenfield — At Montague line, Montague City bridge, report on condition.

Greenfield — At Montague line, estimate for converting existing street railway bridge to highway bridge.

Norton — Bridge over Wading River, estimate for repairs.

Salem — Railroad tunnel, checking estimate of cost.

Taunton — Winthrop Street over Three Mile River, estimate for new bridge.

Westfield — Main Street over Little River, estimate for repairs.

Bridge Plans Submitted and Examined during the Year under the provisions of Chapter 85, General Laws, as amended by Chapter 313 of Acts of 1923.

- Fitchburg — Broad Street over North Branch of Nashua River; two 58-foot spans and one 63-foot span, steel stringers with reinforced concrete floor.
- Framingham — Franklin Street over Sudbury River; one 60-foot span, reinforced concrete arch.
- Haverhill — Rosemont Street over Little River; one 18-foot span, steel stringer with reinforced concrete floor.
- Lawrence — Falls Bridge over Merrimack River; four 147-foot spans, steel plate girders with reinforced concrete floor.
- North Attleborough — Draper Avenue over Seven Mile River; one 14-foot span, reinforced concrete slab.
- North Attleborough — Freeman Street over Ten Mile River; one 19-foot span, reinforced concrete beam and slab.
- North Attleborough — North Washington Street over Ten Mile River; one 13-foot span, reinforced concrete slab.
- Pittsfield — Hungerford Street over Southwest Branch Housatonic River; one 31-foot span, steel stringers with reinforced concrete floor.
- Pittsfield — Hungerford Street over Southwest Branch Housatonic River; one 27-foot span, reinforced concrete beam and slab.
- Pittsfield — Hungerford Street over Jacoby Brook; one 13-foot span, reinforced concrete slab.
- Worcester — Foster Street over Union Street; two 6-foot spans and one 29-foot span, steel stringers with reinforced concrete floor.
- Worcester — Plantation Street over tracks of Boston and Albany Railroad; one 90-foot span, steel plate girder with reinforced concrete floor.

Examinations, Studies, Estimates and Reports by direction of Acts and Resolves of the Legislature

- Chapter 380, Acts of 1934. "An act authorizing the construction of an overpass over Huntington Avenue at or near its intersection with Riverway and Jamaica way in Boston and Brookline." Plans and specifications are being prepared and construction is scheduled to start in 1935.
- Chapter 17, Resolves of 1934. "Resolve providing for an investigation by the department of public works relative to a state highway between the cities of Lowell and Boston." A report has been made.
- Chapter 31, Resolves of 1934, Section a. This part of the Resolve provides for investigating the advisability of constructing "A traffic circle with or without an overpass at the intersection of Bridge Street and Commercial Avenue in the city of Cambridge near the Cambridge end of the Charles river dam." A report has been made.
- Chapter 31, Resolves of 1934, Section c. This part of the Resolve provides for investigating the advisability of constructing "An overpass carrying the Revere Beach parkway over Broadway and Main Street or a by-pass and/or traffic circles in the city of Everett." A report has been made.
- Chapter 33, Resolves of 1934. "Resolve providing for an investigation by the department of public works relative to extending the existing state highway across Chelsea Creek between Boston and Chelsea." A report has been made.
- Chapter 45, Resolves of 1934. "Resolve providing for an investigation by the department of public works relative to certain proposed traffic routes in the Metropolitan district." A report has been made.

BRIDGE OVER THE MERRIMACK RIVER BETWEEN NEWBURYPORT AND SALISBURY

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure, shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1934, was 110. In 1933 the number of such openings was 153; in 1932 the number was 220; and in 1931 the number was 415.

The total expenditure during the year was \$5,220.12.

The total expenditure from 1912 to Nov. 30, 1934, inclusive, was \$195,032.23.

BRIDGE OVER TAUNTON RIVER BETWEEN FALL RIVER AND SOMERSET

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and for operating the draw and maintaining the structure, shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1934, was 2,118. In 1933 the number of such openings was 1,602; in 1932 the number was 1,662; and in 1931 the number was 1,700.

The total expenditure during the year was \$30,038.15.

The total expenditure from 1912 to Nov. 30, 1934, inclusive, was \$401,656.63.

BRIDGE OVER THE ACUSHNET RIVER BETWEEN CITY OF NEW BEDFORD AND THE TOWN OF FAIRHAVEN

This bridge, which was placed in charge of the Department of Public Works and made a State highway by the provisions of Chapter 406, Acts of 1930, which also provided that the expense of keeping the bridge in good repair for travel, operating the draw and of maintaining the structure, shall be paid by the Commonwealth, was taken over by the Department on June 27, 1930.

The number of draw openings while in charge of the Department beginning June 27, 1930, and ending Nov. 30, 1930, was 1,069. In 1931 the number of such openings was 2,564; in 1932 the number was 2,384; in 1933 the number was 1,867; and in 1934 the number was 1,434.

The total expenditure during the year was \$19,625.75.

The total expenditure while in charge of the Department has been \$85,116.75.

CONSTRUCTION OF TOWN AND COUNTY WAYS

(Section 34, Chapter 90, General Laws, Tercentenary Edition)

During the year the Department has contracted for work to be done in the towns and cities named in the following table, which also shows the type of road, the length contracted for, and the allotments or contributions by the State, towns, cities and counties:

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD	LENGTH CON-
	State	Town			TRACTED FOR
(FEET)					
<i>Barnstable County</i>					
Barnstable	\$18,000 00	\$9,000 00	\$9,000 00	Gravel and tar mixed in place	22,582
Falmouth	8,000 00	4,000 00	4,000 00	Gravel and tar mixed in place	9,520
Orleans	3,750 00	1,875 00	1,875 00	Bituminous concrete	2,800
Orleans	7,400 00	3,700 00	3,700 00	Bituminous concrete	6,155
<i>Berkshire County</i>					
Adams	8,000 00	4,000 00	4,000 00	Stone and tar mixed in place	4,025
Alford	1,000 00	500 00	500 00	Gravel	700
Alford	500 00	250 00	250 00	Repairs and oiling	7,713
Becket	3,000 00	1,500 00	1,500 00	Gravel	1,960
Becket	1,000 00	500 00	500 00	Gravel	600
Becket	1,000 00	500 00	500 00	Gravel	950
Cheshire	3,200 00	1,600 00	1,600 00	Gravel	4,350
Clarksburg	2,200 00	1,100 00	1,100 00	Gravel	3,100
Dalton	10,000 00	5,000 00	5,000 00	Stone retread	6,617
Egremont	3,200 00	1,600 00	1,600 00	Stone retread	4,400
Florida	4,000 00	4,000 00	—	Gravel	1,200
Great Barrington	10,000 00	5,000 00	5,000 00	Bituminous macadam	2,990
Hancock	32,500 00	1,250 00	5,000 00	Bituminous macadam	7,925
Hancock	2,000 00	850 00	—	Repairs and oiling	50,688
Hancock	1,557 00	71 00	—	Repairs and oiling	9,400
Hinsdale	1,000 00	500 00	500 00	Gravel	1,400
Lanesborough	4,000 00	2,000 00	2,000 00	Gravel and stone retread	2,400
Lanesborough	1,700 00	850 00	850 00	Gravel	750
Lee	4,000 00	2,000 00	2,000 00	Stone retread and gravel	3,713
Lenox	4,000 00	2,000 00	2,000 00	Gravel, gravel and tar and stone retread	3,765
Monterey	1,000 00	500 00	500 00	Gravel	1,050
Monterey	1,000 00	500 00	500 00	Repairs and widening	600
Mount Washington	1,500 00	500 00	1,000 00	Gravel	1,350
New Ashford	800 00	400 00	400 00	Gravel	1,200
New Ashford	500 00	250 00	250 00	Repairs	2,200
New Marlborough	3,000 00	1,500 00	1,500 00	Stone retread	3,000
New Marlborough	3,000 00	1,500 00	1,500 00	Gravel	3,050
North Adams	7,500 00	3,750 00	3,750 00	Stone and tar mixed in place	3,500

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD	LENGTH CON-TRACTED FOR (FEET)
	State	Town	County		
Otis	\$2,500 00	\$1,250 00	\$1,250 00	Gravel	6,000
Otis	300 00	500 00	50 00	Gravel	3,000
Pittsfield	\$300 00	Farmington River Water Power Co.)			
Pittsfield	10,000 00	5,000 00	5,000 00	Bituminous macadam	4,017
Pittsfield	8,500 00	4,750 00	3,750 00	Bituminous macadam	2,600
Richmond	2,500 00	1,000 00	1,000 00	Gravel	1,250
Sandisfield	4,000 00	2,000 00	2,000 00	Gravel	4,795
Sheffield	1,000 00	500 00	500 00	Gravel	900
Sheffield	3,350 00	1,675 00	1,675 00	Bridge	—
Stockbridge	5,000 00	2,500 00	2,500 00	Bituminous macadam	1,900
Tyringham	2,000 00	1,000 00	1,000 00	Gravel and stone retread	1,950
Washington	5,000 00	1,000 00	1,500 00	Gravel	2,550
West Stockbridge	7,000 00	3,500 00	3,500 00	Stone retread	10,900
West Stockbridge	2,000 00	—	1,000 00	Gravel	1,600
Williamstown	9,075 00	3,625 00	2,500 00	Reinforced cement concrete and bituminous concrete	690
Williamstown	3,000 00	3,000 00	—	Gravel and stone retread	5,000
Windsor	1,000 00	500 00	500 00	Gravel	700
Windsor	1,000 00	500 00	500 00	Gravel	600
<i>Bristol County</i>					
Berkley	2,000 00	2,000 00	1,000 00	Repairs and oiling	46,776
Easton	6,500 00	6,500 00	—	Gravel	2,500
Freetown	1,000 00	1,000 00	1,000 00	Repairs and oiling	68,306
Raynham	500 00	500 00	500 00	Repairs and oiling	16,080
Rehoboth	700 00	700 00	700 00	Repairs and oiling	64,407
Rehoboth	3,000 00	3,000 00	—	Gravel and tar	2,200
<i>Dukes County</i>					
Edgartown	24,000 00	12,000 00	12,000 00	Bituminous concrete	12,650
Gosnold	12,000 00	6,000 00	6,000 00	Bituminous concrete	5,571
Oak Bluffs-Tisbury	47,500 00	—	47,500 00	Bridge and approaches	—
<i>Essex County</i>					
Amesbury	7,000 00	3,500 00	3,500 00	Bituminous macadam	4,600
Andover	10,000 00	5,000 00	5,000 00	Bituminous macadam	4,250
Boxford	3,000 00	3,000 00	—	Repairs and oiling	69,326
Boxford	4,500 00	500 00	—	Stone retread	4,100
Boxford	4,500 00	1,500 00	3,000 00	Stone retread	3,350
Danvers	7,500 00	3,750 00	3,750 00	Bituminous macadam	8,300
Georgetown	3,000 00	1,500 00	1,500 00	Gravel	2,250
Gloucester	5,000 00	5,000 00	—	Bituminous macadam	1,800
Ipswich	1,500 00	1,500 00	—	Repairs and oiling	40,750
Lawrence	80,000 00	—	—	Bridge	—
Marblehead	7,000 00	7,000 00	—	Bituminous macadam	2,948
Marblehead	1,000 00	1,000 00	—	Bituminous macadam	420
Middleton	1,000 00	1,000 00	—	Repairs and oiling	11,200
Middleton	7,500 00	2,500 00	5,000 00	Bituminous macadam	1,823
Newbury	1,500 00	1,500 00	—	Repairs and oiling	27,984
Rowley	1,000 00	1,000 00	—	Repairs and oiling	26,550
Rowley	1,000 00	500 00	500 00	Gravel	500
Salisbury	10,000 00	5,000 00	5,000 00	Repairs and oiling	4,500
Salisbury	3,000 00	3,000 00	—	Stone retread	2,900
West Newbury	1,000 00	1,000 00	—	Oiling	5,200
West Newbury	6,000 00	3,000 00	3,000 00	Grading and drainage	1,400
West Newbury	3,032 00	1,032 00	2,000 00	Gravel and tar mixed in place	5,400
<i>Franklin County</i>					
Ashfield	1,000 00	1,000 00	—	Repairs and oiling	18,000
Ashfield	2,000 00	1,000 00	1,000 00	Stone retread	2,025
Ashfield	3,050 00	240 00	—	Stone retread	2,090
Barnardston	2,000 00	1,000 00	1,000 00	Gravel	696
Buckland	4,000 00	3,000 00	1,000 00	Gravel	2,000
Charlemont	2,000 00	1,000 00	1,000 00	Repairs and oiling	31,680
Colrain	3,500 00	—	—	Gravel and tar mixed in place	4,500
Colrain	6,000 00	2,000 00	1,000 00	Gravel and gravel and tar mixed in place	1,700
Conway	3,000 00	2,000 00	1,000 00	Gravel	3,000
Deerfield	3,000 00	2,000 00	1,000 00	Bridge repairs	—
Erving	2,000 00	1,000 00	1,000 00	Bituminous macadam	2,100
Gill	1,950 00	500 00	—	Gravel	2,400
Gill	2,000 00	1,000 00	1,000 00	Bituminous macadam	1,250
Greenfield	20,000 00	19,000 00	1,000 00	Stone retread	3,200
Hawley	1,000 00	500 00	500 00	Repairs and oiling	35,376
Hawley	1,000 00	500 00	500 00	Gravel and tar mixed in place	9,000
Heath	2,000 00	1,000 00	1,000 00	Bituminous macadam	3,570
Leverett	2,000 00	1,000 00	1,000 00	Gravel	500
Leyden	2,000 00	1,000 00	1,000 00	Gravel	1,400
Monroe	2,000 00	1,000 00	1,000 00	Gravel	1,800
Montague	15,000 00	14,000 00	1,000 00	Repairs and oiling	12,144
New Salem	2,000 00	1,333 00	667 00	Grading	1,600
New Salem	2,000 00	1,667 00	333 00	Gravel and tar mixed in place	4,000
Northfield	2,000 00	1,000 00	1,000 00	Bituminous macadam	5,450
Orange	400 00	320 00	—	Repairs and oiling	44,880
Orange	1,000 00	1,000 00	500 00	Gravel	2,000
Rowe	3,000 00	1,500 00	1,000 00	Gravel and tar mixed in place	3,750
Shelburne	3,500 00	3,000 00	500 00	Repairs and oiling	7,392
				Gravel	6,000
				Gravel	1,200
				Bituminous macadam	1,681

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD	LENGTH CON-TRACTED FOR (FEET)
	State	Town			
Shelburne	\$1,500 00	\$1,000 00	\$500 00	Bituminous macadam	1,600
Shutesbury	2,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	4,000
Sunderland	4,000 00	1,000 00	1,000 00	Grading	3,550
Warwick	2,000 00	1,000 00	1,000 00	Gravel	1,500
Warwick	2,185 00	415 00	—	Repairs and oiling	43,824
Wendell	1,500 00	1,500 00	—	Repairs and oiling	26,400
Wendell	4,000 00	3,000 00	1,000 00	Gravel	3,200
<i>Hampden County</i>					
Agawam	7,500 00	5,000 00	2,500 00	Bituminous macadam	2,050
Blandford	7,000 00	1,900 00	2,450 00	Gravel and stone retread	5,800
Blandford	600 00	300 00	300 00	Repairs and oiling	9,900
Brimfield	500 00	500 00	500 00	Repairs and oiling	26,250
Brimfield	4,000 00	2,000 00	2,000 00	Gravel and tar mixed in place	3,850
Brimfield	1,000 00	195 44	500 00	Grading	650
Chester	5,000 00	800 00	4,000 00	Gravel and stone retread	5,850
Chester	5,000 00	800 00	4,000 00	Bridge and approaches	—
Chester	1,000 00	500 00	1,000 00	Repairs and oiling	15,500
Chester	3,000 00	—	2,500 00	Gravel	1,416
Chicopee	16,000 00	20,000 00	9,000 00	Bituminous macadam	8,790
East Longmeadow	3,500 00	1,750 00	1,750 00	{ Gravel and tar mixed in place	11,650
				{ Oiling	4,500
East Longmeadow	500 00	500 00	500 00	Gravel and tar mixed in place	2,100
Granville	2,500 00	1,000 00	1,500 00	Bituminous macadam	1,726
Granville	3,000 00	1,500 00	1,500 00	Bituminous macadam	2,300
Granville	950 00	450 00	—	Repairs and oiling	10,400
Granville	400 00	300 00	300 00	Bituminous macadam	475
Hampden	7,000 00	2,400 00	4,000 00	Bituminous macadam	3,500
Hampden	1,000 00	600 00	1,000 00	Bituminous macadam	817
Holland	4,000 00	1,000 00	3,200 00	Gravel and tar mixed in place	500
Holland	500 00	500 00	500 00	Repairs and oiling	20,250
Holland	3,000 00	2,000 00	1,000 00	Bridge and approaches	—
Holyoke	18,000 00	10,000 00	8,000 00	Bituminous macadam	7,080
Ludlow	8,000 00	4,000 00	4,000 00	Bituminous macadam	3,800
Monson	5,000 00	2,500 00	2,500 00	{ Gravel and tar mixed in place	650
				{ Grading	2,250
Monson	200 00	200 00	200 00	Repairs	3,693
Montgomery	3,000 00	1,000 00	3,000 00	Stone retread	3,500
Palmer	12,874 00	6,437 00	6,437 00	Bituminous macadam	2,300
Palmer	8,547 00	8,547 00	8,547 00	Stone retread	7,750
Palmer	750 00	750 00	750 00	Drainage	—
Russell	500 00	500 00	500 00	Gravel	800
Russell	350 00	350 00	350 00	Retaining wall	—
Russell	350 00	350 00	350 00	Retaining wall	—
Southwick	4,000 00	1,500 00	2,000 00	Bituminous macadam	1,940
Southwick	9,000 00	1,000 00	2,000 00	Stone retread	9,150
Southwick	2,000 00	1,000 00	1,000 00	Bridge and approaches	—
Tolland	5,000 00	2,000 00	3,000 00	Gravel and stone retread	6,200
Wales	3,000 00	1,000 00	2,000 00	Gravel and tar mixed in place	2,700
Wales	250 00	250 00	250 00	Repairs and oiling	8,825
West Springfield	2,700 00	2,000 00	1,300 00	Bituminous macadam	850
West Springfield	20,000 00	10,000 00	10,000 00	Bituminous macadam	4,400
Westfield	5,000 00	5,000 00	5,000 00	Bituminous macadam	8,400
Wilbraham	6,500 00	4,000 00	2,500 00	Bituminous macadam	3,400
Wilbraham	2,000 00	1,000 00	1,000 00	Bituminous macadam	3,389
<i>Hampshire County</i>					
Amherst	12,000 00	8,000 00	4,000 00	Bituminous macadam	3,767
Amherst	2,000 00	1,500 00	500 00	Bridge	—
Belchertown	15,928 99	3,750 00	5,000 00	Bituminous macadam	3,900
Belchertown	2,260 00	240 00	—	Repairs and oiling	9,500
Chesterfield	1,000 00	500 00	500 00	Gravel	800
Chesterfield	1,000 00	500 00	500 00	Gravel	600
Chesterfield	1,550 00	150 00	—	Repairs and oiling	31,680
Chesterfield	1,000 00	500 00	500 00	Gravel	700
Cummington	1,000 00	500 00	500 00	Gravel	—
Cummington	3,000 00	1,500 00	1,500 00	Gravel	1,850
Cummington	812 00	38 00	—	Repairs and oiling	7,800
Easthampton	5,000 00	8,000 00	1,950 00	Bituminous macadam	2,900
Easthampton	12,000 00	6,000 00	6,000 00	Bituminous macadam	3,405
Enfield	1,000 00	500 00	500 00	Repairs and oiling	20,064
Goshen	1,030 00	45 00	—	Repairs and oiling	9,400
Goshen	1,000 00	500 00	500 00	Gravel	750
Granby	2,000 00	1,000 00	1,000 00	Bituminous macadam	1,150
Greenwich	500 00	500 00	200 00	Repairs and oiling	15,840
Huntington	2,000 00	1,000 00	1,000 00	Gravel and stone retread	1,650
Huntington	2,000 00	1,000 00	1,000 00	Gravel	950
Middlefield	5,600 00	1,000 00	1,800 00	Stone retread	2,554
Middlefield	450 00	300 00	150 00	Gravel	525
Middlefield	450 00	300 00	150 00	Gravel	300
Northampton	3,000 00	1,500 00	1,500 00	Bituminous macadam	2,042
Northampton	6,000 00	4,000 00	3,000 00	Bituminous macadam	4,500
Northampton	2,000 00	7,500 00	1,000 00	Bituminous macadam	1,005
Pelham	6,800 00	1,200 00	2,000 00	Bituminous macadam	1,925
Plainfield	2,735 00	72 00	—	Repairs and oiling	25,381
Plainfield	8,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	1,950
Plainfield	6,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	2,600
South Hadley	15,000 00	7,500 00	7,500 00	Bituminous macadam	4,600
Southampton	1,000 00	500 00	500 00	Stone retread	2,000

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD	LENGTH CONTRACTED FOR (FEET)
	State	Town			
Ware	\$4,000 00	\$2,000 00	\$2,000 00	Bituminous macadam	1,400
Ware	1,500 00	500 00	1,000 00	Bridge	—
Westhampton	1,500 00	750 00	750 00	Gravel	1,800
Westhampton	3,600 00	450 00	450 00	Repairs and oiling	21,120
Williamsburg	945 00	165 00	—	Repairs and oiling	11,600
Williamsburg	2,000 00	1,000 00	1,000 00	Stone retreat	3,029
Worthington	2,000 00	1,000 00	1,000 00	Gravel	1,150
Worthington	1,000 00	500 00	500 00	Gravel	800
Worthington	1,500 00	900 00	850 00	Gravel	750
<i>Middlesex County</i>					
Acton	3,750 00	2,500 00	1,250 00	Gravel and oil	4,100
Acton	2,000 00	2,000 00	2,000 00	Repairs and oiling	93,192
Arlington	1,000 00	1,000 00	1,000 00	Bituminous macadam	400
Arlington	7,000 00	3,500 00	3,500 00	Bituminous macadam	3,950
Arlington	15,000 00	15,000 00	7,500 00	Drainage, etc.	3,479
Arlington	1,750 00	1,750 00	—	Bituminous macadam	3,479
Ashby	1,000 00	500 00	1,000 00	Bituminous macadam	500
Ashland	1,500 00	1,500 00	1,500 00	Repairs and oiling	17,952
Ashland	5,000 00	2,500 00	2,500 00	Repairs and oiling	24,288
Ayer	5,000 00	2,500 00	2,500 00	Gravel and tar	5,700
Ayer	1,500 00	1,500 00	1,500 00	Bituminous macadam	2,000
Bedford	1,900 00	1,900 00	1,900 00	Repairs and oiling	48,048
Bedford	6,000 00	2,400 00	3,600 00	Repairs and oiling	46,464
Bedford	600 00	—	600 00	Bituminous macadam	2,300
Bedford	500 00	200 00	300 00	Bridge repairs	—
Belmont	20,000 00	15,000 00	10,000 00	Repairs	700
Billerica	6,000 00	4,000 00	2,000 00	Bituminous macadam	5,095
Billerica	3,000 00	3,000 00	3,000 00	Gravel and tar	4,400
Billerica	9,000 00	6,000 00	4,000 00	Repairs and oiling	82,368
Billerica	6,000 00	5,000 00	2,000 00	Gravel	4,830
Boxborough	850 00	850 00	850 00	Gravel and tar	4,000
Boxborough	1,500 00	500 00	1,000 00	Repairs and oiling	38,072
Boxborough	450 00	—	450 00	Gravel and tar	1,256
Boxborough	1,000 00	500 00	500 00	Drainage	—
Burlington	2,500 00	2,500 00	2,500 00	Gravel and tar	1,500
Burlington	7,000 00	4,000 00	3,000 00	Repairs and oiling	69,168
Carlisle	2,500 00	2,500 00	2,500 00	Gravel and tar	7,000
Carlisle	600 00	200 00	600 00	Repairs and oiling	64,944
Chelmsford	2,500 00	2,500 00	2,500 00	Bridge repairs	—
Chelmsford	6,000 00	4,000 00	2,000 00	Repairs and oiling	80,256
Chelmsford	8,000 00	4,000 00	4,000 00	Bituminous concrete	1,900
Concord	11,000 00	7,000 00	4,000 00	Bituminous macadam	2,200
Concord	1,500 00	1,300 00	1,500 00	Bituminous macadam	3,340
Dracut	2,000 00	2,000 00	2,000 00	Bituminous macadam	3,700
Dracut	4,500 00	3,000 00	1,500 00	Repairs and oiling	57,816
Dracut	1,000 00	1,000 00	1,000 00	Gravel and tar	4,800
Dunstable	1,750 00	1,750 00	1,750 00	Bridge repairs	—
Dunstable	2,500 00	1,000 00	1,500 00	Repairs and oiling	50,160
Frammingham	2,500 00	1,500 00	1,000 00	Repairs and oiling	42,240
Frammingham	22,500 00	15,000 00	7,500 00	Bituminous macadam	924
Frammingham	5,000 00	3,500 00	2,000 00	Bituminous macadam	6,769
Groton	1,500 00	1,500 00	1,500 00	Bituminous macadam	1,650
Holliston	1,500 00	1,500 00	1,500 00	Repairs and oiling	55,968
Holliston	9,500 00	1,500 00	4,000 00	Repairs and oiling	46,492
Holliston	2,000 00	1,000 00	2,000 00	Bituminous macadam	1,683
Hopkinton	1,000 00	1,000 00	1,000 00	Gravel and tar	2,500
Hopkinton	6,600 00	2,200 00	2,200 00	Repairs and oiling	66,528
Hudson	25,000 00	16,700 00	9,000 00	Bituminous macadam	3,080
Hudson	3,000 00	2,000 00	1,000 00	Bituminous macadam	6,159
Hudson	2,700 00	1,800 00	900 00	Bituminous macadam	550
Lexington	11,250 00	7,500 00	3,750 00	Drainage	—
Lincoln	3,000 00	2,000 00	1,000 00	Bituminous macadam	2,125
Lincoln	500 00	500 00	500 00	Bituminous macadam	17,424
Littleton	2,000 00	2,000 00	2,000 00	Repairs and oiling	36,960
Littleton	25,800 00	3,000 00	9,900 00	Repairs and oiling	54,384
Littleton	800 00	800 00	800 00	Bituminous concrete	4,915
Littleton	1,200 00	800 00	400 00	Gravel and tar	1,150
Lowell	20,000 00	15,000 00	5,000 00	Gravel and tar	1,500
Maynard	3,750 00	1,500 00	2,250 00	Bituminous macadam	3,905
Medford	10,000 00	8,000 00	4,000 00	Bituminous macadam	1,000
Medford	10,000 00	8,000 00	4,000 00	Bituminous concrete	2,275
Natick	6,000 00	4,000 00	2,000 00	Bituminous concrete	1,545
Natick	1,500 00	1,500 00	1,500 00	Gravel and tar	2,200
North Reading	4,500 00	3,000 00	1,500 00	Repairs and oiling	50,477
North Reading	2,000 00	2,000 00	2,000 00	Repairs and oiling	2,700
North Reading	200 00	200 00	200 00	Repairs and oiling	52,272
Pepperell	3,000 00	2,000 00	1,000 00	Repairs	—
Pepperell	3,000 00	3,000 00	3,000 00	Gravel and tar	3,500
Pepperell	9,000 00	6,000 00	3,000 00	Repairs and oiling	77,616
Reading	7,500 00	5,000 00	2,500 00	Reinforced cement concrete	809
Sherborn	2,000 00	2,000 00	2,000 00	Bituminous macadam	3,100
Sherborn	15,000 00	5,000 00	10,000 00	Repairs and oiling	71,280
Sherborn	4,500 00	1,500 00	3,000 00	Bituminous macadam	5,091
Shirley	1,500 00	1,500 00	1,500 00	Bridge and approaches	—
Shirley	6,000 00	3,000 00	3,000 00	Repairs and oiling	51,216
Stoneham	22,500 00	15,000 00	7,500 00	Gravel and oil	6,000
				Bituminous concrete	6,794
				Bituminous macadam	1,200

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD	LENGTH CONTRACTED FOR (FEET)
	State	Town			
Stoneham	\$3,750 00	\$2,500 00	\$1,250 00	Bituminous macadam	975
Stow	2,000 00	2,000 00	2,000 00	Repairs and oiling	41,184
Sudbury	2,000 00	2,000 00	2,000 00	Repairs and oiling	79,728
Sudbury	2,000 00	1,000 00	1,000 00	Gravel and tar	2,000
Tewksbury	2,000 00	2,000 00	2,000 00	Repairs and oiling	45,408
Tewksbury	7,000 00	3,500 00	3,500 00	Bituminous macadam	3,000
Tewksbury	2,250 00	1,500 00	750 00	Gravel and oil	3,500
Townsend	2,000 00	2,000 00	2,000 00	Repairs and oiling	32,736
Townsend	3,000 00	1,000 00	2,000 00	Gravel and oil	3,500
Tyngsborough	2,500 00	2,500 00	2,500 00	Repairs and oiling	71,280
Tyngsborough	2,000 00	1,000 00	2,000 00	Gravel	2,800
Tyngsborough	2,000 00	1,000 00	2,000 00	Gravel and tar	2,500
Tyngsborough	2,000 00	1,000 00	2,000 00	Gravel and tar	2,600
Wakefield	5,000 00	4,000 00	2,000 00	Bituminous concrete	1,200
Wakefield	4,500 00	3,000 00	1,500 00	Bituminous macadam	1,450
Wayland	9,000 00	6,000 00	3,000 00	Bituminous macadam	690
Wayland	3,000 00	3,000 00	3,000 00	Gravel and oil	2,360
Westford	5,000 00	5,000 00	5,000 00	Repairs and oiling	52,800
Westford	5,500 00	3,000 00	2,500 00	Repairs and oiling	129,888
Westford	3,000 00	1,500 00	1,500 00	Gravel and tar	4,600
Westford	3,000 00	1,500 00	1,500 00	Gravel and tar	2,500
Wilmington	3,000 00	2,000 00	1,000 00	Gravel and tar	2,500
Wilmington	1,000 00	1,000 00	1,000 00	Repairs and oiling	35,376
Winchester	17,000 00	12,000 00	7,000 00	Bituminous concrete	2,158
Winchester	14,000 00	9,000 00	5,000 00	Bituminous concrete	6,280
Woburn	12,000 00	8,000 00	4,000 00	Bituminous macadam	1,918
<i>Norfolk County</i>					
Avon	15,000 00	15,000 00	—	Bituminous macadam	4,645
Bellingham	2,650 00	500 00	1,325 00	Repairs and oiling	37,915
Dedham	12,500 00	12,500 00	—	Bituminous macadam	3,935
Dover	4,500 00	1,500 00	3,000 00	Bridge	—
Foxborough	1,650 00	550 00	—	Gravel and tar	1,272
Foxborough	3,108 48	2,500 00	—	Gravel and oiling	500
Franklin	750 00	750 00	1,000 00	Bridge	—
Franklin	7,500 00	7,500 00	—	New Haven Railroad bridge	—
Franklin	2,500 00	2,500 00	—	repairs	—
Medway	1,000 00	1,000 00	—	Gravel and tar	3,850
Medway	1,000 00	1,000 00	1,000 00	Gravel and tar	1,300
Millis	1,000 00	1,000 00	1,000 00	Repairs and oiling	24,920
Norfolk	1,500 00	1,500 00	1,000 00	Repairs and oiling	45,228
Norwood	50,000 00	50,000 00	1,500 00	Repairs and oiling	50,465
Sharon	500 00	500 00	—	Bituminous macadam	2,098
Walpole	3,000 00	3,000 00	—	Bridge	—
Walpole	6,000 00	6,000 00	500 00	Repairs and oiling	13,150
Wrentham	4,000 00	4,000 00	—	Gravel and tar	1,916
Wrentham	4,000 00	4,000 00	—	Gravel	4,305
Wrentham	4,000 00	4,000 00	—	Gravel and tar	4,355
Wrentham	4,000 00	4,000 00	—	Gravel and tar	1,800
<i>Plymouth County</i>					
Abington	12,000 00	6,000 00	6,000 00	Repairs and oiling	13,150
Bridgewater	15,000 00	7,500 00	7,500 00	Gravel and tar	1,916
Brockton	5,000 00	5,000 00	—	Gravel	4,305
Carver	1,000 00	500 00	—	Gravel and tar	4,355
Carver	2,000 00	1,000 00	500 00	Gravel and tar	1,800
East Bridgewater	12,000 00	6,000 00	6,000 00	Gravel and tar mixed in place	1,550
Halifax	12,000 00	6,000 00	6,000 00	Gravel and tar mixed in place	4,000
Hanover	12,000 00	6,000 00	6,000 00	Bituminous macadam	1,950
Kingston	7,500 00	3,750 00	3,750 00	Gravel and tar	700
Lakeville	2,500 00	1,250 00	6,000 00	Two bridges	—
Marion	8,000 00	4,000 00	6,000 00	Gravel and tar mixed in place	7,137
Marshfield	2,000 00	1,500 00	3,750 00	Bituminous macadam	—
Marshfield	3,000 00	1,500 00	3,750 00	Bituminous macadam	1,199
Plympton	1,000 00	500 00	3,750 00	Gravel and tar	3,800
Rochester	6,000 00	3,000 00	4,000 00	Bituminous macadam	4,475
Rockland	16,000 00	8,000 00	1,000 00	Bituminous macadam	1,350
Scituate	13,200 00	6,600 00	1,500 00	Repairs	2,046
West Bridgewater	4,000 00	2,000 00	500 00	Gravel and tar mixed in place	4,000
<i>Worcester County</i>					
Ashburnham	1,750 00	1,000 00	3,000 00	Gravel and tar	4,863
Athol	1,000 00	1,000 00	3,000 00	Gravel and tar	5,120
Athol	1,500 00	1,500 00	3,000 00	Bituminous macadam	2,304
Athol	1,350 00	1,350 00	4,000 00	Bituminous macadam	2,304
Auburn	10,500 00	7,000 00	4,000 00	Gravel and tar mixed in place	6,100
Barre	1,750 00	1,000 00	2,000 00	Gravel and tar	1,999
Barre	8,000 00	5,000 00	2,000 00	Gravel and tar	3,800
Barre	2,500 00	2,500 00	2,000 00	Bituminous macadam	4,475
Berlin	4,000 00	1,750 00	2,000 00	Bituminous macadam	1,350
Berlin	4,000 00	1,750 00	2,000 00	Repairs	2,046
Berlin	2,500 00	1,000 00	2,500 00	Gravel and tar mixed in place	4,000
Blackstone	6,000 00	4,000 00	2,000 00	Gravel and tar	4,863
Blackstone	1,500 00	1,000 00	500 00	Gravel and tar	5,120
Blackstone	1,000 00	1,000 00	1,000 00	Bituminous macadam	2,304
Bolton	15,000 00	2,000 00	5,000 00	Bituminous macadam	2,304
Bolton	1,000 00	500 00	1,000 00	Bituminous macadam	2,304
Bolton	1,000 00	500 00	1,000 00	Repairs and oiling	29,882

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD	LENGTH CONTRACTED FOR (FEET)
	State	Town	County		
Boylston	\$4,000 00	\$1,500 00	\$2,000 00	Gravel and tar mixed in place	5,147
Boylston	4,000 00	2,000 00	2,000 00	Gravel and tar	2,150
Boylston	1,000 00	500 00	500 00	Repairs and oiling	2,000
Boylston	1,100 00	800 00	1,100 00	Repairs and oiling	48,866
Brookfield	1,050 00	450 00	750 00	Bridge and approaches	—
Brookfield	1,200 00	600 00	600 00	Gravel and tar mixed in place	3,100
Brookfield	800 00	400 00	400 00	Gravel and tar mixed in place	650
Brookfield	1,000 00	500 00	1,000 00	Repairs and oiling	22,170
Charlton	3,600 00	1,300 00	1,600 00	Gravel and tar mixed in place	3,800
Charlton	1,000 00	300 00	700 00	Gravel and tar mixed in place	1,000
Charlton	200 00	200 00	200 00	Repairs and oiling	21,030
Dana	2,600 00	500 00	1,000 00	Gravel and tar mixed in place	1,500
Dana	1,250 00	500 00	1,250 00	Repairs and oiling	50,795
Dana	2,000 00	1,000 00	1,000 00	Repairs and oiling	13,000
Douglas	4,750 00	2,000 00	2,250 00	Gravel and tar mixed in place	3,350
Douglas	2,500 00	500 00	1,500 00	Gravel and tar mixed in place	2,000
Dudley	9,000 00	5,000 00	4,000 00	Gravel and tar mixed in place	10,124
East Brookfield	2,200 00	1,100 00	1,100 00	Gravel and tar mixed in place	2,500
East Brookfield	600 00	300 00	300 00	Gravel and tar mixed in place	800
Gardner	1,500 00	1,500 00	1,500 00	1,500 Boston & Maine Railroad gravel	3,200
Grafton	10,000 00	5,000 00	5,000 00	Bituminous macadam	4,227
Grafton	2,000 00	2,000 00	2,000 00	Repairs and oiling	26,608
Hardwick	4,000 00	1,400 00	2,600 00	Gravel and tar mixed in place	3,000
Hardwick	1,300 00	1,300 00	1,300 00	Repairs and oiling	42,765
Harvard	1,000 00	1,000 00	1,000 00	Repairs and oiling	47,270
Harvard	1,500 00	1,500 00	1,500 00	Repairs and oiling	8,000
Holden	10,000 00	5,000 00	5,000 00	Gravel and tar mixed in place	4,850
Holden	1,000 00	1,000 00	1,000 00	Repairs and oiling	34,048
Hubbardston	4,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	2,600
Hubbardston	1,000 00	500 00	1,000 00	Grading	700
Hubbardston	1,400 00	700 00	1,400 00	Repairs and oiling	56,970
Leicester	6,000 00	3,000 00	3,000 00	Gravel and tar mixed in place	4,050
Leicester	2,000 00	1,000 00	2,000 00	Repairs and oiling	37,540
Lunenburg	4,000 00	1,500 00	2,500 00	{ Grading	4,300
Lunenburg	1,500 00	1,000 00	1,500 00	{ Gravel and tar mixed in place	4,100
Mendon	4,600 00	1,100 00	2,000 00	{ Repairs and oiling	38,420
Mendon	3,000 00	1,000 00	1,000 00	{ Grading	2,900
Mendon	1,500 00	1,000 00	1,500 00	{ Gravel	2,650
Mendon	10,000 00	5,000 00	5,000 00	{ Gravel and tar mixed in place	1,900
Mendon	1,000 00	1,000 00	1,000 00	{ Grading	2,300
Milford	1,000 00	1,000 00	1,000 00	Repairs and oiling	28,450
Milford	4,000 00	2,000 00	2,000 00	Bituminous macadam	5,700
Millville	600 00	1,188 00	600 00	Repairs and oiling	15,800
New Braintree	2,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	3,201
New Braintree	2,000 00	—	1,000 00	Repairs and oiling	14,000
New Braintree	1,400 00	700 00	1,400 00	Gravel and tar mixed in place	1,600
New Braintree	1,000 00	500 00	1,000 00	Gravel and tar mixed in place	977
North Brookfield	3,450 00	1,725 00	1,725 00	Repairs and oiling	37,713
North Brookfield	1,250 00	975 00	975 00	Gravel and tar mixed in place	750
North Brookfield	400 00	400 00	400 00	Gravel and tar mixed in place	3,500
Northborough	500 00	500 00	500 00	Bridge and approaches	—
Northbridge	8,000 00	5,000 00	4,000 00	Repairs and oiling	15,801
Northbridge	2,500 00	1,500 00	1,000 00	Repairs and oiling	14,182
Northbridge	500 00	500 00	500 00	Stone retread and oiling	7,650
Oakham	5,000 00	2,000 00	3,000 00	Gravel and oil	1,200
Oakham	1,100 00	800 00	1,100 00	Repairs and oiling	14,600
Paxton	4,500 00	1,500 00	3,000 00	Gravel and tar mixed in place	3,423
Paxton	1,200 00	600 00	1,200 00	Repairs and oiling	33,810
Petersham	1,500 00	1,500 00	1,500 00	Gravel and tar mixed in place	3,115
Petersham	932 00	466 00	466 00	Repairs and oiling	32,634
Phillipston	9,000 00	2,000 00	9,000 00	Repairs and oiling	36,784
Phillipston	1,250 00	500 00	1,250 00	Gravel and tar mixed in place	3,450
Princeton	4,000 00	2,000 00	2,000 00	Gravel and tar mixed in place	6,850
Princeton	4,000 00	2,000 00	2,000 00	Repairs and oiling	40,800
Princeton	225 00	225 00	225 00	Gravel and tar mixed in place	3,900
Princeton	1,200 00	800 00	1,200 00	Gravel and tar mixed in place	3,350
Royalston	1,000 00	500 00	500 00	Gravel and tar mixed in place	949
Royalston	3,200 00	1,300 00	2,000 00	Repairs and oiling	80,090
Rutland	3,500 00	1,500 00	2,000 00	Repairs	19,430
Rutland	3,500 00	1,500 00	2,000 00	Repairs and oiling	51,750
Rutland	1,500 00	1,000 00	1,500 00	Gravel and tar mixed in place	1,700
Shrewsbury	7,500 00	5,000 00	2,500 00	Gravel and tar mixed in place	2,700
Shrewsbury	4,000 00	2,000 00	2,000 00	Repairs and oiling	45,040
Southborough	2,100 00	1,050 00	1,050 00	Gravel and tar mixed in place	3,242
Southborough	200 00	200 00	200 00	Repairs and oiling	24,870
Southbridge	15,000 00	10,000 00	5,000 00	Gravel and tar mixed in place	2,200
Southbridge	500 00	500 00	500 00	Repairs and oiling	21,800
Spencer	13,000 00	5,000 00	8,000 00	Bituminous macadam and stone retread	7,275
Spencer	800 00	800 00	800 00	Repairs and oiling	18,350
Sterling	4,950 00	2,200 00	3,850 00	Gravel and tar mixed in place	7,650
Sterling	4,050 00	1,800 00	3,150 00	Repairs and oiling	25,400
Sterling	700 00	700 00	700 00	Gravel and tar mixed in place	4,450
Sturbridge	2,000 00	1,000 00	2,000 00	Grading	4,000
Sturbridge	300 00	150 00	300 00	Repairs and oiling	59,300
Sturbridge	300 00	150 00	300 00	Gravel and tar mixed in place	2,450
Sturbridge	300 00	150 00	300 00	Repairs and oiling	7,882

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD	LENGTH CON- TRACTED FOR (FEET)
	State	Town			
Sutton	\$3,000 00	\$500 00	\$3,000 00	Gravel and tar mixed in place	5,000
Sutton	7,000 00	2,000 00	5,000 00	Gravel and tar mixed in place	4,050
Sutton	1,500 00	—	1,500 00	Grading	800
Sutton	1,200 00	600 00	1,200 00	Repairs and oiling.	29,578
Templeton	1,000 00	1,000 00	1,000 00	Repairs and oiling.	40,350
Templeton	5,000 00	3,000 00	2,000 00	Gravel and tar	4,000
Templeton	750 00	750 00	750 00	Bridge	—
Upton	5,000 00	2,000 00	3,000 00	Gravel and tar mixed in place	4,000
Upton	5,000 00	2,000 00	3,000 00	Gravel and tar mixed in place	3,400
Uxbridge	8,000 00	4,500 00	3,500 00	Gravel and tar mixed in place	6,850
Uxbridge	8,000 00	4,500 00	3,500 00	Gravel and tar	7,635
Warren	400 00	400 00	400 00	Repairs and oiling.	17,740
West Boylston	5,350 00	2,200 00	3,350 00	Gravel and tar mixed in place	4,429
West Boylston	5,000 00	2,000 00	3,000 00	Gravel and tar mixed in place	5,100
West Boylston	1,000 00	800 00	1,000 00	Repairs and oiling.	26,836
West Brookfield	3,750 00	1,250 00	2,500 00	Gravel and tar	3,850
West Brookfield	400 00	400 00	400 00	Repairs and oiling.	49,860
Westborough	800 00	800 00	800 00	Repairs and oiling.	39,050
Westborough	2,000 00	1,000 00	2,000 00	Bituminous macadam	6,650
Westminster	7,000 00	2,500 00	4,500 00	Gravel and tar mixed in place	6,075
Westminster	2,000 00	1,000 00	2,000 00	Repairs and oiling.	66,960
Winchendon	800 00	800 00	800 00	Repairs and oiling.	19,528

EXPENDITURES FOR CONSTRUCTION OF TOWN AND COUNTY WAYS

The expenditures during the year in various Counties were:—

Barnstable, \$33,957.63	Hampshire, \$297,360.86
Berkshire, \$346,160.43	Middlesex, 644,845.91
Bristol, \$19,277.30	Norfolk, \$83,155.90
Dukes, \$47,890.76	Plymouth, \$136,796.76
Essex, \$74,121.19	Worcester, \$374,530.15
Franklin, \$286,590.21	Total, \$2,587,386.13
Hampden, \$242,699.03	

Details of the foregoing expenditures follow:—

Barnstable County.—Barnstable, \$9,977.04; Falmouth, \$7,647.04; Orleans, \$16,333.55.

Berkshire County.—Adams, \$9,108.24; Alford, \$1,803.67; Becket, \$6,012.23; Cheshire, \$6,400.52; Clarksburg, \$5,600.07; Dalton, \$9,159.05; Egremont, \$3,847.83; Gt. Barrington, \$15,071.31; Hancock, \$35,302.89; Hinsdale, \$7,436.31; Lanesboro, \$8,373.35; Lee, \$4,988.25; Lenox, \$4,793.33; Monterey, \$2,403.35; Mt. Washington, \$1,803.67; New Ashford, \$961.91; New Marlborough, \$7,214.63; No. Adams, \$7,646.24; Otis, \$3,366.84; Peru, \$5,566.35; Pittsfield, \$14,505.01; Richmond, \$3,004.06; Sandisfield, \$4,809.77; Savoy, \$5,317.33; Sheffield, \$3,631.81; Stockbridge, \$7,276.01; Tyringham, \$2,404.89; Washington, \$6,012.22; West Stockbridge, \$10,822.00; Williamstown, \$139,112.50; Windsor, \$2,404.79.

Bristol County.—Berkley, \$2,404.89; Easton, \$8,656.47; Freetown, \$1,202.44; Raynham, \$601.22; Rehoboth, \$4,642.63; Westport, \$1,769.65.

Dukes County.—Edgartown, \$14,125.56; Gosnold, \$8,652.95; Oak Bluffs, \$11,516.66; Tisbury, \$13,595.59.

Essex County.—Amesbury, \$8,417.11; Andover, \$6,492.03; Boxford, \$12,412.51; Danvers, \$7,623.33; Georgetown, \$3,607.33; Gloucester, \$3,006.11; Haverhill, \$3,981.34; Ipswich, \$1,803.67; Marblehead, \$9,257.92; Middleton, \$1,202.44; Newbury, \$1,803.67; Rowley, \$2,404.89; Salisbury, \$6,818.09; West Newbury, \$5,290.75.

Franklin County.—Ashfield, \$7,274.79; Bernardston, \$2,404.89; Buckland, \$4,809.75; Charlemont, \$2,404.89; Colrain, \$5,872.72; Conway, \$3,605.79; Deerfield, \$3,607.33; Erving, \$2,572.30; Gill, \$4,747.63; Greenfield, \$8,998.28; Hawley, \$2,404.73; Heath, \$2,404.88; Leverett, \$2,404.89; Leyden, \$2,404.89; Monroe, \$2,401.51; Montague, \$17,177.78; New Salem, \$128,698.82; Northfield, \$2,404.89; Orange, \$14,433.04; Rowe, \$3,607.33; Shelburne, \$4,208.56; Shutesbury, \$41,285.40; Sunderland, \$4,809.78; Warwick, \$5,031.90; Wendell, \$6,613.44.

Hampden County.—Agawam, \$13,402.00; Blandford, \$9,111.12; Brimfield, \$6,394.65; Chester, \$16,833.93; Chicopee, \$18,788.28; East Longmeadow, \$4,809.78; Granville, \$9,426.00; Hampden, \$9,619.56; Holland, \$7,199.92; Holyoke, \$18,313.72; Longmeadow, \$10,652.20; Ludlow, \$9,048.15; Monson, \$5,060.96; Montgomery, \$3,607.33; Palmer, \$23,079.43; Russell, \$1,441.28; Southwick, \$15,285.40.

631.77; Springfield, \$3,217.52; Tolland, \$6,012.22; Wales, \$4,316.62; Westfield, \$6,012.23; West Springfield, \$30,499.58; Wilbraham, \$10,220.78.

Hampshire County.—Amherst, \$12,421.34; Belchertown, \$34,850.85; Chesterfield, \$5,471.12; Cummington, \$5,785.84; Easthampton, \$16,807.55; Enfield, \$1,202.44; Goshen, \$2,440.96; Granby, \$2,404.89; Greenwich, \$601.22; Huntington, \$5,049.34; Middlefield, \$12,526.81; Northampton, \$12,915.36; Pelham, \$93,905.13; Plainfield, \$14,135.85; Southampton, \$3,190.73; So. Hadley, \$14,668.62; Ware, \$4,809.78; Westhampton, \$6,132.47; Williamsburg, \$8,585.59; Worthington, \$39,354.97.

Middlesex County.—Acton, \$6,914.06; Arlington, \$24,606.87; Ashby, \$1,202.44; Ashland, \$3,846.75; Ayer, \$10,595.77; Bedford, \$10,220.69; Belmont, \$18,828.02; Billerica, \$29,596.36; Boxborough, \$4,028.19; Carlisle, \$4,930.02; Chelmsford, \$17,692.02; Concord, \$15,919.23; Dracut, \$9,018.33; Dunstable, \$6,643.37; Framingham, \$34,928.59; Groton, \$5,805.42; Holliston, \$15,273.73; Hopkinton, \$14,128.46; Hudson, \$39,246.21; Lexington, \$3,076.33; Lincoln, \$4,899.96; Littleton, \$34,784.30; Lowell, \$40,446.38; Malden, \$7,822.43; Marlboro, \$4,985.91; Maynard, \$4,381.06; Medford, \$18,799.36; Melrose, \$8,073.34; Natick, \$8,956.07; No. Reading, \$7,815.48; Pepperell, \$7,214.32; Reading, \$21,936.04; Sherborn, \$19,563.74; Shirley, \$9,018.33; Stoneham, \$23,038.57; Stow, \$2,404.89; Sudbury, \$4,809.73; Tewksbury, \$15,180.86; Townsend, \$6,012.22; Tyngsborough, \$10,224.78; Wakefield, \$13,171.49; Watertown, \$1,885.41; Wayland, \$13,991.79; Westford, \$18,093.56; Wilmington, \$4,809.26; Winchester, \$35,200.07; Woburn, \$8,620.89.

Norfolk County.—Avon, \$12,024.45; Bellingham, \$3,518.38; Dedham, \$13,209.51; Foxborough, \$5,765.92; Franklin, \$14,371.35; Medway, \$1,522.79; Millis, \$1,202.44; Needham, \$901.19; Norfolk, \$1,803.56; Norwood, \$270.54; Sharon, \$593.98; Walpole, \$11,032.03; Weymouth, \$4,211.20; Wrentham, \$12,728.56.

Plymouth County.—Abington, \$10,609.63; Bridgewater, \$11,968.82; Brockton, \$16,913.37; Carver, \$3,607.33; East Bridgewater, \$10,921.75; Halifax, \$7,846.90; Hanover, \$11,206.43; Kingston, \$4,779.67; Lakeville, \$3,005.63; Marion, \$8,256.67; Marshfield, \$2,404.89; Plympton, \$1,202.44; Rochester, \$7,214.67; Rockland, \$17,783.03; Scituate, \$14,265.75; West Bridgewater, \$4,809.78.

Worcester County.—Athol, \$841.86; Auburn, \$9,847.44; Barre, \$10,396.03; Berlin, \$9,832.26; Blackstone, \$9,394.26; Bolton, \$19,479.94; Boylston, \$11,627.44; Brookfield, \$4,034.20; Charlton, \$3,921.00; Clinton, \$1,541.56; Dana, \$4,628.78; Douglas, \$7,747.38; Dudley, \$9,800.02; East Brookfield, \$4,869.90; Grafton, \$10,507.28; Hardwick, \$4,760.13; Harvard, \$808.14; Holden, \$11,431.58; Hubbardston, \$6,460.90; Leicester, \$7,214.67; Lunenburg, \$4,007.05; Mendon, \$11,064.40; Milford, \$10,145.82; Millville, \$2,490.55; New Braintree, \$6,218.00; No. Brookfield, \$752.31; Northbridge, \$7,688.02; Oakham, \$4,995.63; Paxton, \$7,318.47; Petersham, \$1,625.00; Phillipston, \$9,322.82; Princeton, \$5,022.13; Rutland, \$9,829.42; Shrewsbury, \$11,105.45; Southborough, \$8,266.81; Southbridge, \$7,583.07; Spencer, \$18,932.02; Sterling, \$11,593.86; Sturbridge, \$2,404.89; Sutton, \$14,107.22; Templeton, \$6,202.80; Upton, \$12,024.44; Uxbridge, \$21,851.65; Warren, \$261.09; West Boylston, \$12,215.97; West Brookfield, \$4,249.14; Westborough, \$2,404.89; Westminster, \$11,702.46.

REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS, IN CERTAIN TOWNS

(Sections 26 to 29 and 31 of Chapter 81 of the General Laws, as appearing in the Tercentenary Edition thereof, as amended with reference to Section 26 by Chapter 366 of the Acts of 1934)

During the year the Department contracted for work to be done in the towns named in the following table, which also shows the road mileage in the towns and the allotments or contributions by the State and towns:—

Counties and Towns	Miles of Road	Allotment	
		State	Town
<i>Barnstable County</i>			
Brewster	40	\$6,000 00	\$4,000 00
Dennis	78	11,700 00	7,800 00
Eastham	41	6,150 00	3,075 00
Mashpee	27	4,100 00	2,025 00
Sandwich	67	10,050 00	6,700 00
Truro	29	4,350 00	3,625 00
Wellfleet	36	5,400 00	4,500 00
<i>Berkshire County</i>			
Alford	19	2,850 00	760 00
Becket	58	8,700 00	2,320 00
Cheshire	42	6,300 00	4,200 00
Clarksburg	14	2,100 00	2,100 00
Egremont	32	4,800 00	2,400 00
Florida	43	6,450 00	3,225 00
Hancock	30	4,500 00	1,200 00
Hinsdale	55	5,250 00	2,625 00
Lanesborough	42	6,300 00	3,150 00
Monterey	52	7,800 00	2,080 00
Mount Washington	20	3,000 00	500 00
New Ashford	9	1,350 00	360 00
New Marlborough	85	12,750 00	3,400 00
Otis	49	7,350 00	1,225 00
Peru	37	5,550 00	555 00
Richmond	34	5,100 00	1,700 00
Sandisfield	79	11,850 00	1,185 00
Savoy	56	8,400 00	840 00
Sheffield	77	11,550 00	3,850 00
Tyringham	25	3,750 00	1,000 00
Washington	51	7,650 00	765 00
West Stockbridge	36	5,400 00	2,700 00
Windsor	65	9,750 00	975 00
<i>Bristol County</i>			
Berkley	42	6,300 00	2,100 00
Freetown	47	7,050 00	3,525 00
Norton	57	8,550 00	5,700 00
Raynham	45	6,750 00	4,500 00
Rehoboth	109	16,350 00	5,450 00
Swansea	56	8,400 00	8,400 00
<i>Dukes County</i>			
Chilmark	14	2,100 00	1,400 00
West Tisbury	13	1,950 00	1,950 00
<i>Essex County</i>			
Boxford	53	7,950 00	2,650 00
Essex	21	3,150 00	3,150 00
Georgetown	35	5,250 00	4,375 00
Groveland	30	4,500 00	3,750 00
Merrimac	31	4,650 00	4,650 00
Middleton	30	4,500 00	4,500 00
Newbury	37	5,550 00	4,625 00
Rowley	31	4,650 00	3,100 00
Topsfield	38	5,700 00	5,700 00
West Newbury	37	5,550 00	2,775 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
<i>Franklin County</i>			
Ashfield	81	12,150 00	3,240 00
Bernardston	40	6,000 00	3,000 00
Buckland	45	6,750 00	5,625 00
Charlemont	49	7,350 00	2,450 00
Colrain	84	12,600 00	3,360 00
Conway	72	10,800 00	2,880 00
Deerfield	74	11,100 00	9,250 00
Gill	34	5,100 00	2,550 00
Hawley	49	7,350 00	735 00
Heath	53	7,950 00	795 00
Leverett	38	5,700 00	1,520 00
Leyden	39	5,850 00	585 00
Monroe	18	2,700 00	2,250 00
New Salem	67	10,050 00	1,005 00
Northfield	66	9,900 00	4,950 00
Rowe	41	6,150 00	1,640 00
Shelburne	48	7,200 00	6,000 00
Shutesbury	40	6,000 00	1,000 00
Sunderland	34	5,100 00	2,550 00
Warwick	55	8,250 00	825 00
Wendell	48	7,200 00	2,400 00
Whately	40	6,000 00	3,000 00
<i>Hampden County</i>			
Blandford	78	11,700 00	1,950 00
Brimfield	60	9,000 00	3,000 00
Chester	68	10,200 00	3,400 00
Granville	72	10,800 00	5,400 00
Hampden	34	5,100 00	1,700 00
Holland	30	4,500 00	450 00
Monson	101	15,150 00	7,575 00
Montgomery	27	4,050 00	675 00
Southwick	50	7,500 00	5,000 00
Tolland	41	6,150 00	615 00
Wales	25	3,750 00	1,000 00
Wilbraham	43	6,450 00	6,450 00
<i>Hampshire County</i>			
Belchertown	113	16,950 00	4,520 00
Chesterfield	59	8,850 00	1,475 00
Cummington	49	7,350 00	1,225 00
Enfield	37	5,550 00	1,480 00
Goshen	28	4,200 00	700 00
Granby	48	7,200 00	2,400 00
Greenwich	39	5,850 00	1,560 00
Hadley	58	8,700 00	7,250 00
Hatfield	46	6,900 00	5,750 00
Huntington	41	6,150 00	3,075 00
Middlefield	41	6,150 00	615 00
Pelham	35	5,250 00	1,400 00
Prescott	39	5,850 00	585 00
Southampton	56	8,400 00	2,240 00
Westhampton	50	7,500 00	750 00
Williamsburg	43	6,450 00	3,225 00
Worthington	68	10,200 00	1,020 00

Counties and Towns	Miles of Road	State	Allotment Town
<i>Middlesex County</i>			
Acton	58	8,700 00	8,700 00
Ashby	56	8,400 00	2,240 00
Ashland	38	5,700 00	5,700 00
Bedford	35	5,250 00	5,250 00
Boxborough	23	3,450 00	920 00
Burlington	34	5,100 00	5,100 00
Carlisle	42	6,300 00	3,150 00
Dracut	61	9,150 00	9,150 00
Dunstable	37	5,550 00	925 00
Groton	72	10,800 00	10,800 00
Holliston	50	7,500 00	7,500 00
Hopkinton	66	9,900 00	6,600 00
Lincoln	37	5,550 00	5,550 00
Littleton	42	6,300 00	5,250 00
North Reading	31	4,650 00	4,650 00
Pepperell	69	10,350 00	6,900 00
Sherborn	43	6,450 00	4,300 00
Shirley	46	6,900 00	4,600 00
Stow	45	6,750 00	3,375 00
Sudbury	64	9,600 00	4,800 00
Tewksbury	56	8,400 00	8,400 00
Townsend	70	10,500 00	5,250 00
Tyngsborough	40	6,000 00	3,000 00
Westford	85	12,353 16	10,625 00
<i>Norfolk County</i>			
Bellingham	44	6,600 00	6,600 00
Medfield	41	6,150 00	6,150 00
Medway	44	6,600 00	6,600 00
Millis	39	5,850 00	5,850 00
Norfolk	41	6,150 00	4,100 00
Plainville	32	4,800 00	4,000 00
<i>Plymouth County</i>			
Carver	68	10,200 00	6,800 00
Halifax	34	5,100 00	3,400 00
Hanson	36	5,400 00	5,400 00
Lakeville	42	6,300 00	3,150 00
Norwell	47	7,050 00	4,700 00
Pembroke	49	7,350 00	6,125 00
Plympton	30	4,500 00	1,500 00
Rochester	50	7,500 00	3,750 00
<i>Worcester County</i>			
Ashburnham	75	11,250 00	5,625 00
Barre	110	16,500 00	8,250 00
Berlin	39	5,850 00	2,925 00
Bolton	53	7,950 00	2,650 00
Boylston	40	6,000 00	3,000 00
Brookfield	37	5,550 00	3,700 00
Charlton	116	17,400 00	4,640 00
Dana	43	6,450 00	1,720 00
Douglas	70	10,500 00	5,250 00
Dudley	63	9,450 00	7,875 00
East Brookfield	19	2,850 00	2,375 00
Grafton	68	10,200 00	10,200 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
Hardwick	96	14,400 00	7,200 00
Harvard	56	8,400 00	5,600 00
Holden	77	11,550 00	7,700 00
Hubbardston	75	11,250 00	1,875 00
Lancaster	58	8,700 00	7,250 00
Leicester	66	9,900 00	8,250 00
Lunenburg	66	9,900 00	4,950 00
Mendon	36	5,400 00	3,600 00
New Braintree	49	7,350 00	1,225 00
North Brookfield	69	10,350 00	6,900 00
Northborough	47	7,050 00	4,700 00
Oakham	45	6,750 00	1,125 00
Oxford	66	9,900 00	8,250 00
Paxton	29	4,350 00	2,175 00
Petersham	70	10,500 00	3,500 00
Phillipston	41	6,150 00	1,025 00
Princeton	72	10,800 00	2,880 00
Royalston	67	10,050 00	1,675 00
Rutland	68	10,200 00	3,400 00
Southborough	45	6,750 00	6,750 00
Spencer	100	15,000 00	12,500 00
Sterling	73	10,950 00	5,475 00
Sturbridge	70	10,500 00	3,500 00
Sutton	84	12,600 00	4,200 00
Templeton	63	9,450 00	7,875 00
Upton	60	9,000 00	4,500 00
Warren	71	10,650 00	8,875 00
West Boylston	36	5,400 00	5,400 00
West Brookfield	53	7,950 00	3,975 00
Westborough	57	8,550 00	8,550 00
Westminster	77	11,550 00	3,080 00

EXPENDITURES FOR REPAIR AND IMPROVEMENT OF PUBLIC WAYS

The expenditures during the year in the various counties were:

Barnstable, \$49,819.02	Hampshire, \$140,800.35
Berkshire, \$153,487.78	Middlesex, \$129,845.60
Bristol, \$56,257.65	Norfolk, \$38,384.07
Dukes, \$3,950.68	Plymouth, \$52,854.06
Essex, \$50,827.27	Worcester, \$383,308.27
Franklin, \$173,925.03	Total, \$1,321,420.45
Hampden, \$87,960.67	

Barnstable County.—Brewster, \$5,878.61; Dennis, \$12,905.55; Eastham, \$6,-215.54; Mashpee, \$4,034.96; Sandwich, \$10,824.62; Truro, \$4,586.82; Wellfleet, \$5,372.92.

Berkshire County.—Alford, \$3,555.58; Becket, \$9,085.20; Cheshire, \$7,045.31; Clarksburg, \$2,262.66; Egremont, \$5,556.41; Florida, \$6,734.64; Hancock, \$4,-270.83; Hinsdale, \$5,585.01; Lanesboro, \$5,311.86; Monterey, \$11,454.92; Mt. Washington, \$2,592.51; New Ashford, \$1,142.18; New Marlboro, \$11,869.47; Otis, \$7,194.86; Peru, \$5,776.21; Richmond, \$5,293.91; Sandisfield, \$12,354.97; Savoy, \$7,981.45; Sheffield, \$11,682.12; Tyringham, \$4,146.28; Washington, \$7,-669.83; West Stockbridge, \$5,408.31; Windsor, \$9,513.26.

Bristol County.—Berkley, \$6,637.14; Freetown, \$7,427.27; Norton, \$9,007.54; Raynham, \$7,111.22; Rehoboth, \$17,224.96; Swansea, \$7,849.52.

Dukes County.—Chilmark, \$2,001.68; West Tisbury, \$1,949.00.

Essex County.—Boxford, \$8,375.44; Essex, \$3,395.99; Georgetown, \$3,916.24; Groveland, \$4,740.81; Merrimac, \$4,898.84; Middleton, \$4,740.81; Newbury, \$5,847.00; Rowley, \$4,898.84; Topsfield, \$4,166.30; West Newbury, \$5,847.00.

Franklin County.—Ashfield, \$12,879.00; Bernardston, \$6,294.74; Buckland, \$7,084.88; Charlemont, \$7,901.36; Colrain, \$13,563.99; Conway, \$10,868.75; Deerfield, \$11,798.74; Gill, \$4,661.80; Hawley, \$7,664.31; Heath, \$8,375.44; Leverett, \$6,110.38; Leyden, \$6,163.06; Monroe, \$2,791.81; New Salem, \$9,639.65; Northfield, \$9,876.64; Rowe, \$6,531.32; Shelburne, \$7,637.98; Shutesbury, \$6,426.44; Sunderland, \$5,241.23; Warwick, \$8,981.21; Wendell, \$7,111.22; Whately, \$6,321.08.

Hampden County.—Blandford, \$12,572.47; Brimfield, \$7,912.72; Chester, \$8,323.39; Granville, \$11,377.95; Hampden, \$5,583.62; Holland, \$3,521.32; Monson, \$14,039.63; Southwick, \$7,901.35; Tolland, \$5,592.24; Wales, \$4,130.11; Wilbraham, \$7,005.87.

Hampshire County.—Belchertown, \$17,198.22; Chesterfield, \$9,323.60; Cummington, \$7,743.33; Enfield, \$5,926.02; Goshen, \$4,424.76; Granby, \$8,033.04; Greenwich, \$6,163.06; Hadley, \$9,165.57; Hatfield, \$7,269.25; Huntington, \$5,944.16; Middlefield, \$5,091.63; Pelham, \$5,583.62; Plainfield, \$7,743.33; Prescott, \$6,189.39; Southampton, \$8,849.51; Westhampton, \$7,901.36; Williamsburg, \$6,795.17; Worthington, \$11,455.33.

Middlesex County.—Acton, \$5,267.57; Ashby, \$6,639.14; Ashland, \$5,109.54; Bedford, \$5,004.19; Boxboro, \$2,686.46; Burlington, \$4,266.73; Carlisle, \$3,476.60; Dracut, \$6,900.52; Dunstable, \$4,003.35; Groton, \$9,745.00; Holliston, \$4,635.46; Hopkinton, \$6,426.44; Lincoln, \$5,162.22; Littleton, \$5,109.54; North Reading, \$3,476.60; Pepperell, \$8,586.14; Sherborn, \$4,108.70; Shirley, \$5,688.98; Stow, \$5,320.25; Sudbury, \$4,424.75; Tewksbury, \$3,950.68; Townsend, \$7,163.90; Tyngsboro, \$5,741.65; Westford, \$6,953.19.

Norfolk County.—Bellingham, \$7,252.73; Medfield, \$6,479.11; Medway, \$6,953.19; Millis, \$6,163.06; Norfolk, \$6,479.11; Plainville, \$5,056.87.

Plymouth County.—Carver, 10,099.48; Halifax, \$4,107.53; Hanson, \$5,038.61; Lakeville, \$6,565.67; Norwell, \$6,343.08; Pembroke, \$7,936.94; Plympton, \$4,716.58; Rochester, \$8,046.17.

Worcester County.—Ashburnham, \$10,029.32; Barre, \$15,202.88; Berlin, \$5,593.03; Bolton, \$8,003.57; Boylston, \$5,270.00; Brookfield, \$4,365.73; Charlton, \$16,324.05; Dana, \$7,222.91; Douglas, \$9,589.58; Dudley, \$9,955.71; East Brookfield, \$3,000.70; Grafton, \$11,422.82; Harvard, \$8,849.52; Hardwick, \$14,344.51; Holden, \$12,378.34; Hubbardston, \$10,624.34; Lancaster, \$9,165.57; Leicester, \$10,888.87; Lunenburg, \$7,192.48; Mendon, \$5,767.60; New Braintree, \$7,246.87; North Brookfield, \$11,247.87; Northborough, \$7,135.25; Oakham, \$5,545.75; Oxford, \$11,175.90; Paxton, \$4,554.97; Petersham, \$10,534.50; Phillipston, \$2,974.88; Princeton, \$8,586.91; Royalston, \$10,095.13; Rutland, \$11,395.37; Southborough, \$7,337.71; Spencer, \$13,992.43; Sterling, \$7,987.70; Sturbridge, \$8,803.51; Sutton, \$13,066.56; Templeton, \$8,901.41; Upton, \$7,399.55; Warren, \$8,637.97; West Boylston, \$5,816.82; West Brookfield, \$7,218.37; Westborough, \$7,539.72; Westminster, \$10,921.59.

HIGHWAY IMPROVEMENTS AUTHORIZED BY SPECIAL ACTS

In accordance with the provisions of Chapter 348 of the Acts of 1933, the following contracts were entered into:

Quincy-Weymouth, January 16, 1934, contract made with V. Barletta Co., of Boston, for constructing the substructure for a steel bridge over Weymouth Fore River in Quincy and Weymouth. The proposal amounted to \$912,112.40. Work about one-half completed. Expenditure during 1934, \$424,652.02.

Quincy-Weymouth, March 7, 1934, contract made with McClintic-Marshall Corporation, of Boston, for constructing the superstructure for a steel bridge over Fore River in Quincy and Weymouth. The proposal amounted to \$717,000.00. Work about one-sixth completed. Expenditure during 1934, \$76,194.00.

Quincy-Weymouth, May 15, 1934, contract made with E. L. Conwell & Co., of Philadelphia, Pennsylvania, for mill and shop inspection of the structural steel and machinery for the superstructure of the Fore River Bridge in Quincy and Weymouth. The proposal amounted to \$1,186.97. Work not yet commenced.

In accordance with the provisions of Chapter 241 of the Acts of 1932, the following contracts were entered into:

Lynn-Revere, January 10, 1934, contract made with The Crandall Engineering Company, of Cambridge, for constructing the substructure of a steel bridge over the Saugus River in Lynn and Revere. The proposal amounted to \$510,418.79. Work about one-half completed. Expenditure during 1934, \$335,755.56.

Lynn-Revere, October 2, 1934, contract made with McClintic-Marshall Corporation, of Boston, for constructing the superstructure for a steel bridge over the Saugus River in Lynn and Revere. The proposal amounted to \$540,906.63. Work not yet commenced.

Lynn-Revere, October 30, 1934, contract made with James G. Dempsey, of Philadelphia, Pennsylvania, for mill and shop inspection of steel work and mechanical equipment for the superstructure of the Saugus River Bridge in Lynn and Revere. The proposal amounted to \$900.72. Work not yet commenced.

THE REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW (Sections 29 to 33, Chapter 93, General Laws)

In accordance with the provisions of sections 29 to 33 inclusive, chapter 93, General Laws, providing for the control of billboards and other advertising devices on public ways or on private property within public view of any highway, public park or reservation, the Department adopted on January 24, 1924, certain new rules and regulations, superseding all former issues; and these have continued in force during the present year.

Applications, Licenses and Permits.—Licenses were granted to 22 individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 796 applications received for permits for the erection of advertising signs, 532 permits have been granted; and 147 permits were granted on applications filed previous to 1934. Forty-seven (47) applications for the erection of new signs were not approved because the locations were in violation of the rules and regulations adopted January 24, 1924; and 11 applications for permits were cancelled.

Of 2,819 renewal applications sent to those whose permits were to expire June 30, 1934, 2,568 were returned to the Department requesting renewal; and on account of the advertisers failing to renew, 184 permits were cancelled. The number of renewal applications approved to be in force until June 30, 1935, was 2,782. The total number of permits in force November 30, 1934, was 2,934.

Receipts and Expenditures.—The total receipts for the year ending November 30, 1934, were \$14,995.88 and the expenditures were \$14,436.11.

The Removal of Signs.—The "Sign Patrol" consisting of small trucks completely equipped for the work, have removed 120,000 signs during the year in addition to 11,000 removed by other agents of the Department, under authority of section 30A, Chapter 93, General Laws, from within the highways and from private property.

Injunction.—On June 19, 1925, a temporary injunction was granted the General Outdoor Advertising Company, Inc., and others, as complainants enjoining and restraining the Commissioners, constituting the Department of Public Works, for the Commonwealth, until the further order of the Court, from proceeding in any way against them for any alleged failure to comply with the Rules and Regulations for the control and restriction of the billboards, signs and other devices, promulgated under date of January 24, 1924. This injunction is still in force and will be until the case is settled in Court.

Hearings.—Hearings were given to officials of Dedham, Lexington, Needham, Pittsfield, Stoneham, Wellesley, Westwood and to one individual.

CONTRACT PRICES DEC. 1, 1933, TO NOV. 30, 1934

TOWN OR CITY	CONTRACTOR	EXCAVATION			BORROW		Plain Concrete Masonry (Cu. Yd.)
		Earth (Cu. Yd.)	Ledge (Cu. Yd.)	Trench (Cu. Yd.)	Ord. (Cu. Yd.)	Gravel (Cu. Yd.)	
*Agawam . . .	D. O'Connell's Sons . . .	\$0 40	-	\$0 70	-	\$0 87	\$18 00
Arlington . . .	University Contracting Co. . .	27	\$0 25	-	-	30	-
*Arlington-Belmont- Lexington . . .	G. A. Fuller . . .	38	1 80	1 00	\$0 35	44	13 00
*Ashby-Fitchburg . . .	Fitchburg Concrete Construc- tion Co. . .	45	1 75	1 10	-	50	15 00
*Ashland-Holliston . . .	E. H. Lewis . . .	50	-	1 50	-	50	20 00
Auburn . . .	Lee Construction Co. . .	85	85	1 00	-	40	20 00
°Auburn . . .	G. I. Hosmer . . .	-	10 00	-	-	-	-
°Auburn . . .	Peter Salvucci . . .	50	4 00	1 00	50	50	16 00
Avon . . .	Bradford-Weston . . .	30	2 00	80	-	40	15 00
*Blandford-Russell . . .	Arborio Road Construction Co. . .	1 00	1 00	1 25	50	60	16 00
°Bourne . . .	Eastern Contracting Co. . .	18	90	75	01	25	18 00
°Bourne-Wareham . . .	Eastern Contracting Co. . .	30	2 50	75	20	25	20 00
*Braintree-Ran- dolph . . .	State Construction Co. . .	27	2 25	75	-	35	14 00
Bridgewater . . .	M. F. Roach & Sons . . .	30	2 50	80	-	40	15 00
*Brimfield-Stur- bridge . . .	N. H. Road Con. Co. . .	50	50	1 25	-	55	20 00
*Brookline . . .	Coleman Bros. . .	50	4 00	1 50	-	50	10 00
Brookline . . .	Simpson Bros. . .	50	10 00	1 50	-	-	-
*Charlemont . . .	Kelleher Corporation . . .	60	60	1 00	30	47	17 00
*Charlton-Stur- bridge . . .	Rome Constr. Co. . .	40	1 40	1 25	-	50	18 00
*Charlton-Stur- bridge-E. Brook- field . . .	A. L. Perini . . .	30	3 00	1 25	35	60	18 00
*Concord . . .	B. Perini Co. . .	27	27	1 50	29	28	18 00
*Concord-Lincoln . . .	B. Perini Co. . .	33	33	1 20	25	15	17 00
Dalton . . .	C. B. Lindholm . . .	60	60	1 00	-	50	18 00
Danvers . . .	M. McDonough Co. . .	60	1 50	50	-	25	-
Dedham . . .	M. McDonough Co. . .	20	1 00	70	20	30	10 00
*Dennis-Yarmouth Dover-Sherborn . . .	N. E. Foundation Co., Inc. . .	1 00	2 00	1 00	30	75	10 00
*Easton-Raynham- Taunton . . .	Lee Construction Co. . .	40	1 00	-	35	40	-
E. Bridgewater . . .	Arute Bros., Inc. . .	30	2 00	1 00	-	40	20 00
*Essex-Gloucester . . .	Powers Bros. . .	30	2 00	80	25	35	12 00
*Fairhaven . . .	Welch-Moynihan . . .	40	3 75	90	-	55	15 00
Falmouth . . .	Eastern Contracting Co. . .	40	2 00	1 00	40	40	15 00
Gosnold . . .	F. V. Lawrence . . .	25	25	80	-	30	20 00
*Great Barrington . . .	Otis R. Mann . . .	65	4 00	80	65	-	20 00
Great Barrington . . .	L. Longhi & Sons . . .	92	-	1 50	50	70	18 00
Halifax . . .	C. B. Lindholm . . .	40	40	1 00	-	40	18 00
Hancock . . .	T. H. Hannaford . . .	-	25	-	-	-	-
*Hatfield-Nor- thampton . . .	J. Chesarone . . .	49	2 00	1 00	45	48	15 00
*Lawrence- No. Andover . . .	Kelleher Corporation . . .	45	1 50	90	10	60	17 00
*Leominster- Sterling . . .	J. E. Watkins Co. . .	85	85	75	-	50	17 00
*Lexington . . .	R. H. Newell Co. . .	40	2 00	1 00	-	40	20 00
*Lexington-Lincoln . . .	Warren Bros. Rds. Co. . .	-	5 60	-	-	-	-
*Littleton . . .	B. Perini & Sons . . .	33	1 90	1 00	355	35	13 00
*Lowell-Tyngsboro . . .	Middlesex Construction Co. . .	32	2 45	72	-	44	13 50
*Lynn-Revere . . .	E. H. Lewis . . .	50	3 00	50	-	65	15 00
°Newburyport . . .	McClintic-Marshall Company . . .	-	-	-	1 00	-	-
°Newburyport . . .	Arute Bros. . .	-	-	1 40	-	60	9 00
°North Adams . . .	G. A. Fuller Co. . .	42	3 50	2 00	-	45	10 60
No. Adams . . .	D. O'Connell's Sons . . .	44	2 00	1 25	34	65	14 00
°No. Adams . . .	C. B. Lindholm . . .	35	3 00	1 00	-	40	18 00
Norwood . . .	C. B. Lindholm . . .	-	1 50	-	-	-	20 00
Oak-Bluffs- Tisbury . . .	Simpson Bros. Corp. . .	30	2 00	1 40	-	60	15 00
Otis . . .	Rendle Constr. & Dock Bldg. Co. . .	45	5 00	1 00	43	-	-
*Palmer . . .	D. O'Connell's Sons . . .	60	3 00	-	60	60	-
Pelham . . .	Kelleher Corporation . . .	40	1 25	1 25	-	50	14 00
Pittsfield . . .	Carlo Bianchi & Co. . .	45	1 75	1 00	35	45	16 00
Pittsfield . . .	John H. Walsh & Co. . .	35	25	75	30	30	14 00
°Quincy- Weymouth . . .	C. B. Lindholm . . .	50	2 00	1 00	50	50	18 00
Reading . . .	V. Barletta Co. . .	30	2 00	1 00	35	50	12 00
	Charles Capone . . .	40	2 00	-	-	65	-

° Projects financed in whole by Federal funds.

* Projects under PWA (30% U. S.—70% State).

CONTRACT PRICES DEC. 1, 1933, TO NOV. 30, 1934

TOWN OR CITY	CONTRACTOR	EXCAVATION			BORROW		Plain Concrete Masonry (Cu. Yd.)
		Earth (Cu. Yd.)	Ledge (Cu. Yd.)	Trench (Cu. Yd.)	Ord. Yd. (Cu. Yd.)	Gravel (Cu. Yd.)	
*Revere . . .	M. McDonough Co. . . .	40	2 00	1 50	50	60	15 00
*Revere . . .	M. McDonough Co. . . .	30	4 00	1 50	40	70	12 00
*Revere Br. . .	Lackawanna Steel Constr. Corp. . . .	-	-	-	-	-	-
*Revere Br. . .	M. McDonough Co. . . .	-	-	-	-	-	-
*Richmond . . .	Green Island Construction Co., Inc. . . .	40	1 50	75	50	55	13 00
*Saugus . . .	M. McDonough Co. . . .	40	3 00	1 50	-	35	12 00
Scituate . . .	Lee Construction Co. . . .	30	2 50	1 00	30	42	15 00
Sheffield Br. . .	J. O. Averso	-	5 00	-	-	-	-
Sherborn . . .	Middlesex Con. Co. . . .	32	4 00	1 00	33	33	13 00
Southbridge . .	G. Bonazolli & Sons . . .	30	3 00	85	-	69	18 00
*Stoughton . .	Arute Bros., Inc. . . .	-	3 00	-	-	40	-
*Ware . . .	Kelleher Corp. . . .	40	3 00	1 25	-	50	15 00
Williamstown . .	C. B. Lindholm	60	5 00	1 00	-	60	20 00
*Winchendon . .	Kelleher Corp. . . .	50	1 25	1 25	-	60	-
*Worcester . . .	Coleman Bros. Corp. . . .	1 00	2 00	1 00	48	55	-

° Projects financed in whole by Federal funds.

* Projects under PWA (30% U. S.—70% State).

CONTRACT PRICES DEC. 1, 1933, TO NOV. 30, 1934

Asphalt (Gal.)	Concrete Surface (Cu. Yd.)	Broken Stone (Cu. Yd.)	Cable Guard Rail (Lin. Ft.)	PIPE CULVERTS (Lin. Ft.)					Catch Basins (Each)	Reinforced Concrete Masonry (Cu. Yd.)	Reinforced Steel for Structure (Lb.)
				CLAY		REINF. CONCRETE					
				10 in.	12 in.	12 in.	15 in.	18 in.			
11 10	- 6 00	1 50	50	50 40	60 60	- 90	1 20	1 60	60 00 60 00	15 00 12 00	10 035
-	-	-	-	-	-	-	-	-	-	-	-
13 11 115	- - -	2 50 1 70 1 80	75 60 50	- - -	- - 60	1 50 1 00	- - -	2 00 - -	50 00 55 00 40 00	13 00 - 18 00	05 - 04
12 13	- -	2 00 2 60	45 60	- -	60 55	1 25 1 50	- -	2 00	55 00 50 00	15 00 30 00	05 05
- 12 12 12	- 10 00 -	2 51 3 00 2 95 1 70	- - - -	- 55 60 60	65 60 70	- - -	- - -	- - 2 00 -	- 60 00 -	20 00 - -	033 - -
12	-	1 70	-	60	-	-	-	-	60 00	17 25	03

REGISTRY OF MOTOR VEHICLES

The 1934 statistics begin to show slow but steady increases in the various classes of applications handled. The demands on the Registry for information from records and data from the files continues to increase. An increase in court abstracts is called to attention this year, with a corresponding increase in revenue received from fines.

The activities of the Registrar of Motor Vehicles having to do with highway safety were continued, particularly the special attention over Saturday and weekends and holiday periods. The Registrar of Motor Vehicles received the continued co-operation of the various safety committees and organizations, police and state officials having to do with highway safety.

The first annual rush for registration plates in the new building took place at the beginning of the fiscal year and the efficient and speedy manner in which it was possible to take care of the public in issuing plates during the trying days at the end of the year indicated that the arrangements made for this work in the new building were well planned. Although the public crowded in in great numbers during the last two days, and the lines were long, no person was required at any time to wait in line outdoors, but were inside the building either in the lobby or the basement, where standing in line was at least as comfortable as possible. A large detail of State Police contributed to the orderly procession of registrants to the proper counters for their plates.

The Registry has now completed over a year and a half in its new quarters and it is obvious to all that the facilities offered and office space provided will take care of the requirements of the Registry for a good many years.

An initial installation of the teletypewriter service was installed from the Boston office to the Worcester and Springfield branches. Such an installation has been talked of for several years and it is believed that this installation which was installed very late in the fiscal year will in a period of a very short time, a year or two at the most, result in extension of the teletypewriter service to all branches of the Registry of Motor Vehicles because the machine makes available almost instantly to the branch offices and the public using the branches all data or any portion of it that is needed from the records of the central office.

A few of the outstanding figures for the year, together with a comparison with the previous year, follow: —

	1933	1934
Motor vehicle certificates of registration issued	931,516	945,488
Compulsory insurance cancellation notices received	101,175	86,406
Licenses to operate issued	1,022,662	1,053,527
Examinations of applicants for licenses	74,988	83,031
Licenses and registrations revoked and suspended	78,431	52,505
Licenses revoked for driving under influence of liquor	4,274	5,717
Total number of applications handled	2,024,792	2,076,600
Gross receipts from fees	\$6,035,192.27	\$6,202,907.26

REGISTRATIONS OF PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES

The following registration figures show a 1.44% increase in passenger registrations, a 1.58% increase in commercial registrations, and motor cycle registrations showed an increase of 34% over the previous year.

	1905	1915	1925	1929*	1933	1934
Passenger cars	4,889	90,580	663,858	905,636	819,987	831,853
Commercial vehicles	—	12,053	100,480	113,268	110,506	112,260
Motor cycles	553	9,520	10,333	6,168	1,023	1,375
Totals	5,442	112,153	774,671	1,025,072	931,516	945,488

* Peak year.

EXAMINATIONS FOR LICENSES

The system of examining prospective operators of motor vehicles was not changed in any respect during the year 1934, the appointment system being continued and the examination consisting of the usual demonstration on the highways,

a reading test, an eye test, and a test of the applicant as to his knowledge of the motor vehicle law. The number of persons examined has increased at the fifty-five examining points with the following results: —

	1933	1934
Operators passed	66,547	73,900
Operators unfit	6,966	8,037
Restriction removal, passed	2,371	1,765
Restriction removal, unfit	261	176
"Competency," passed	330	208
"Competency," unfit	21	37
Total examinations	76,496	84,123

BRANCH OFFICES

The branch offices of the Registry of Motor Vehicles are able to render practically the same service to the public that is rendered at the main office at Boston, except as to information from the records which records this year were made available to the Worcester and Springfield offices by the installation of teletype machines. Each branch office serves as a headquarters for the district in which it is located, both as to distribution of number plates and licenses and law enforcement.

The following table gives approximate figures showing the distribution of applications received at the branch offices and at the central office at Boston: —

APPROXIMATE DISTRIBUTION OF REGISTRATIONS, LICENSES, ETC.

	Regis- trations	First Licenses	License Renewals	Miscel- laneous	Totals
Boston:					
Counter	199,000	—	180,000	77,000	456,000
Mail	159,000	—	396,000	15,000	570,000
Examination	—	21,000	—	4,000	25,000
Pittsfield	23,000	2,500	19,000	6,000	50,500
Springfield	55,000	6,500	57,000	18,000	136,500
Greenfield	11,000	1,500	10,000	4,000	26,500
Northampton	12,000	1,000	11,000	4,000	28,000
Worcester	52,000	7,000	49,000	16,000	124,000
Fitchburg	19,000	1,500	17,000	5,000	42,500
Framingham	23,000	2,000	15,000	7,000	47,000
Lawrence	36,000	4,000	31,000	9,000	80,000
Lowell	24,000	3,500	23,000	6,000	56,500
Fall River	22,000	4,500	23,000	7,000	56,500
New Bedford	15,000	2,500	26,000	7,000	50,500
Lynn	52,000	7,000	47,000	16,000	122,000
Quincy	34,000	5,500	35,000	12,000	86,500
Brockton	38,000	5,000	33,000	13,000	89,000
Hyannis ³	12,000	2,000	7,000	3,000	24,000
Totals	786,000 ²	77,000	979,000	229,000 ¹	2,071,000

¹ This figure includes approximately 159,000 number plate reissues.

² Does not include reissues (see Miscellaneous).

³ Includes Oak Bluffs and Nantucket.

During the year the branch office at Brockton was moved to a new and better location where the facilities offered have been found to be extremely satisfactory.

COMPULSORY MOTOR VEHICLE LIABILITY INSURANCE

The following figures show the volume of papers received and notices mailed in connection with the carrying out of the law regarding compulsory motor vehicle liability insurance.

Causes for Cancellation of Policies:	1933	1934
For non-payment of premiums	70,564	56,901
For other reasons	30,611	29,505
Total	101,175	86,406

Origin of requests for Cancellation of Policies:

Insurance companies	97,877	80,550
Finance companies	3,298	5,856
Total	101,175	86,406

Disposition of applications for cancellations:

Replacement certificates, adjusting cancellations	8,194	7,046
Reinstatements, adjusting cancellations	45,000	40,550
Sets of plates returned before effective date of cancellation	13,000	10,432
Revocations	34,981	28,378
Total	101,175	86,406

Return of Plates:

Returned promptly after revocation	22,048	16,481
By Police	5,955	5,060
By Inspectors of Registry	3,173	2,465
Not returned	3,805	4,372
Total revocations	34,981	28,378

PROPERTY DAMAGE

Under the provisions of Section 22A of Chapter 90 General Laws, which became effective September, 1932, the Registrar may, upon receipt of evidence satisfactory to him, suspend the license of any operator who has failed to satisfy a judgment rendered against him after sixty days in any case in which such operator is the defendant in an action brought to recover damages for injuries to property arising out of the use, operation or maintenance on the ways of the Commonwealth of a motor vehicle or trailer.

The following figures indicate the number of cases in which successful plaintiffs availed themselves of the additional facilities provided in the new law for recovering damages and the action taken thereon.

Complaints received	344	410
Releases received, no action being necessary	81	82
Licenses or right to operate suspended	263	328
Licenses or right to operate reinstated after suspension	59	138

AIRCRAFT

A brief resumé of the 1934 report of the Aeronautical Branch will show what is more important than anything else, a decided decrease in the number of fatal accidents, which has been cut in half, and also a decrease in the number of persons killed from 10 to 6 over the year 1933. The "no injury" accidents remain the same. Although there is a slight increase in the personal injury accidents, it is not discouraging when the detailed report on file is examined as it shows that practically all the injuries, with the exception of two, were of a very minor nature.

The noticeable drop in the number of pilots from 357 to 273 in the Commonwealth does not necessarily mean a wane in the flying activities as it will be seen that there is a slight addition over the previous year in the number of airplanes. We believe that perhaps there are fewer new pilots, which may be due partly to the recent economic conditions and also, in a great measure, to stricter requirements for the coming flyers.

Worthy of particular note also is the fact that the department has been complimented on its co-operation with the Federal Government in the development of certain fields and airports under ERA projects.

Lastly, a very extensive air marking program has been worked out in which it is planned to make Massachusetts again one of the leaders in aviation progress.

The following figures summarize the work of the Aviation Section:

	1933	1934
Pilots' licenses issued	21	13
Pilots' permits issued	336	260
Pilots examined by flight tests	10	7

P. D. 54			61
Pilots checked	346	275	
Aircraft registered	27	22	
Aircraft permits issued	231	242	
Aircraft inspected	269	315	
Duplicates and certified copies issued	4	6	
Fees received	\$492	\$376	
Suspensions of licenses and rights to fly	27	38	
Aircraft grounded	71	76	
Reinstatements of licenses, rights and groundings	66	81	
Court prosecutions	2	0	
Rulings promulgated	2	1	
Airports approved	1	0	
Airports disapproved	1	1	
Surveys of fields	84	86	
Investigations by aircraft inspectors	896	1,116	
Airplane accidents	53	53	
	1933	1934	
Fatal accidents	6	3	
Personal injury accidents	9	12	
No injury accidents	38	38	
Persons killed	10	6	
Persons injured	15	20	

Ground accidents

	1933	1934
Personal injury accidents	1	0
No injury accidents	4	13
Persons injured	1	0

INSPECTION OF MOTOR VEHICLE EQUIPMENT

The fifth periodic inspection of the safety equipment of all motor vehicles registered in the commonwealth was held during the year 1934. The work was carried on by a permanent organization of Official Inspection Stations designated by the Registrar. Most of these stations have now been functioning for a period of five years and performed the work honestly and efficiently.

The results of the inspection confirmed the conclusions reached by former experience, namely, that one inspection per year cannot be expected to secure the desired results. Therefore, new regulations were adopted, effective January 1, 1935, providing for two inspections per year to be held during the months of May and September.

During the year approximately 784,000 cars were inspected. The result may be summarized as follows:

Total number of cars inspected	784,000
Total O.K. without repair or adjustment	282,240—36%
Total requiring replacement or adjustment	501,760—64%

Repairs or adjustments on the 501,760 vehicles requiring correction of defects in equipment were as follows:

Brakes	282,240—36%
Lights	462,560—59%
Horn	14,896—1.9%
Muffler	6,272—0.8%
Steering Gear	13,328—1.7%
Windshield Cleaner	16,464—2.1%
Number Plates	3,920—0.5%

School Bus Inspections

All the school buses operated in Massachusetts under contracts with cities or towns, or owned by cities or towns, were examined by inspectors of this department five times during the year as required by Chapter 271 of the Acts of 1932.

These inspections were held during the first weeks of January, March, May, September and November. In each case, about eight hundred vehicles were inspected at 70 designated examining points. Because of the provisions of the law, complete compliance with its equipment requirements cannot be insisted upon until the termination of all transportation contracts existing on August 26, 1932. In general, however, school bus equipment has improved considerably since the first inspection held in October, 1932, and many new buses have been put in operation to take the place of vehicles which failed to meet the requirements of the Act.

Brakes, Lights and Overloads

Sixteen men were regularly assigned to equipment work. Besides their duties in connection with the periodic inspections of motor vehicles and school buses, including the supervision of over 2,000 Official Inspection Stations, these men did considerable road work in enforcing equipment requirements. 1,640 vehicles were reported for defective brakes; 20,194 for defective lights. 301 registrations were suspended or revoked because of dangerously defective equipment. In addition, 565 owners were sent warning notices because of overloading and 41 registrations were revoked for this cause. Equipment inspectors also reported 2,145 cases of improper operation for action by the Registrar and 2,054 cases of violation of laws and regulations regarding equipment, dimensions of vehicles, etc. In addition, 5,259 notices were sent to owners whose cars were reported as not inspected and 674 hearings were held for the same reason.

Headlamps, Rear Lamps and Reflex Reflectors

No new headlamps were approved but several extensions of approval were granted during the year. Sixteen new tail lamps and six new rear red reflectors were approved during the year.

MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS

Deaths caused by motor vehicles in 1934 numbered 921, an increase of 152 or 19.7% as compared with the record of the previous year. A comparative table of classified fatalities, injuries and collisions in the years 1933 and 1934 is as follows:

Motor Vehicle Accidents to Persons

	Persons Killed		Persons Injured	
	1933	1934	1933	1934
Pedestrians by autos	425	529	15,180	15,761
Pedestrians by motorcycles	0	0	26	41
Pedestrians near street cars	8	5	35	24
Occupants of autos	277	313	31,325	35,187
Occupants of autos at R. R. crossings	17	20	18	46
Occupants of motorcycle	9	14	184	173
Bicycle riders	17	16	920	950
Occupants horse-drawn vehicles	6	4	193	226
Coasters on sleds	6	18	235	537
Coasters on wheels	4	2	133	110
Totals	769	921	48,249	53,055
	Children Killed		Children Injured	
	1933	1934	1933	1934
Boys	115	120	7,062	6,891
Girls	39	60	3,599	3,744
Totals	154	180	10,661	10,635

Number of Collisions

	1933	1934
Collision with pedestrian	15,428	15,888
Collision with automobile	20,118	22,015
Collision with horse-drawn vehicle	263	285
Collision with railroad train	23	37
Collision with street car	342	352
Collision with fixed object	2,375	2,299
Collision with bicycle	943	970
Non-Collision (overturn)	774	804
Collision with motorcycle	246	229
Collision with sled	211	481
Collision with animal	86	103
Coaster on wheels	134	112
Totals	40,943*	43,575
In the daytime	24,871	25,283
After dark	16,072	18,292
Totals	40,943*	43,575

* Apparent discrepancy between this figure and the number of collisions shown in 1933 report (40,216) is due to the change in policy in counting fatal accident collisions.

ACCIDENT REPORT LETTERS

As provided by section 26, chapter 90, General Laws, every operator of a motor vehicle in any manner involved in an accident in which any person is killed or injured is required to report in writing to the Registrar. The number of these formal accident reports received from operators in 1934 was 46,651 as compared with 44,869 received in 1933. Under the requirements of section 29, chapter 90, General Laws, 19,895 similar reports of accidents were received from Police Departments throughout the State in 1934 as against 18,991 received in 1933. In addition, in connection with this reporting of accidents by operators during the year 1933 there were received 12,318 letters and complaints reporting faulty operating. During the year 1934, these letters and complaints numbered 11,115.

COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, LICENSES, DEATHS, INJURIES, REVOCATIONS AND SUSPENSIONS

Year	Automobiles Registered	Motor-Cycles Registered	Total Regis- trations	Number of Persons Killed	Number of Persons Injured	Licenses Issued	Total Sus- pensions and Revo- cations	For Operat- ing Under Influence of Liquor
1910	31,360	3,358	34,718	77	963	41,259	283	22
1911	38,907	3,658	42,565	110	1,248	51,950	360	14
1912	50,132	5,034	55,166	142	1,962	66,645	546	56
1913	62,660	7,127	69,787	188	2,923	81,034	608	87
1914	77,246	8,161	85,407	229	4,010	99,532	8,580	131
1915	102,633	9,520	112,153	294	6,197	133,935	1,153	202
1916	136,809	10,713	147,522	315	9,131	171,596	1,396	320
1917	174,274	11,065	185,339	438	7,282	214,229	1,831	485
1918	193,497	12,862	206,359	499	8,598	235,140	2,343	553
1919	247,183	13,698	260,881	582	16,287	297,968	2,156	554
1920	304,538	15,142	319,680	481	21,182	361,539	2,944	888
1921	360,731	12,058	372,790	544	11,487	380,519	4,899	1,508
1922	449,838	11,675	461,513	522	15,277	444,173	8,369	2,460
1923	566,150	11,733	577,883	578	16,217	536,819	11,613	3,333
1924	672,315	10,778	683,093	709	19,579	620,439	14,154	4,395
1925	764,338	10,333	774,671	755	25,736	698,378	16,249	4,654
1926	826,224	9,215	835,439	705	25,351	763,951	18,705	4,863
1927	819,703	7,245	826,948	693	31,721	814,094	31,252	4,983
1928	883,595	6,656	890,251	715	42,201	870,160	40,814	5,071
1929	1,018,904	6,168	1,025,072	777	40,111	944,338	53,133	5,381
1930	1,008,476	4,642	1,013,118	795	44,279	982,795	52,954	5,052
1931	1,006,808	3,068	1,009,876	793	48,837	1,024,304	63,841	5,535
1932	921,909	1,661	923,570	768	47,658	1,014,635	73,511	4,824
1933	930,493	1,023	931,516	769	48,249	1,022,662	78,431	4,274
1934	944,713	1,375	946,088	921	53,055	1,053,527	52,505	5,717

INVESTIGATIONS AND PROSECUTIONS BY INSPECTORS

Investigations were made under the direction of the Chief Inspector relative to fatal and nonfatal accidents, violations of the laws concerning brakes and headlights, inspection of garages, miscellaneous complaints, and the prosecution of motorists in court. The table below shows the wide range of these activities of the inspectors, and reveals an increase in the total number of cases handled.

Classification of Reports

	1933	1934
Accidents, fatal	729	848
Accidents, nonfatal	5,457	5,406
General reputation	6,933	6,649
Miscellaneous	12,437	13,799
Totals	25,556	26,702
Complaints filed	12,537	14,287
Garages	8,964	9,700
Headlights	24,031	21,295
Prosecutions	655	1,004
Amount of fines	\$21,263	\$26,158

Revocations and Suspensions

	1933	1934
Licenses suspended	10,551	10,818
Licenses revoked	2,996	4,205
Rights suspended or revoked	4,402	5,133
Certificates suspended	1,127	1,592
Certificates revoked	57,802	28,549
Certificates and licenses suspended	17	27
Certificates and licenses revoked	1,359	1,947
Certificates revoked and rights suspended	107	141
Rights in Massachusetts suspended	70	93
Totals	78,431	52,505
Resulting from investigations	12,577	12,541
Resulting from Court convictions	7,603	9,886
Resulting from Police complaints	1,401	1,578
Resulting from Judges' complaints	25	8
Resulting from State Police complaints	104	116
Resulting from Insurance cancellations	56,721	28,376
Totals	78,431	52,376

Character of Offenses

	1933	1934
Reckless and endangering life	1,572	1,570
Liquor convictions	3,601	4,927
Going away after accidents	332	388
Without authority	726	705
Racing	2	4
Improper person	5,059	5,330
Improper person, liquor	673	790
Improper operation	6,874	6,962
Two overspeeds	58	38
Three overspeeds	9	6
Insurance cancellations	56,721	28,376
Insurance convictions	387	335
Improper equipment, miscellaneous	193	147

P. D. 54		65
Improper equipment, lights	334	103
Improper equipment, brakes	369	278
Failure to display stickers	181	73
Fatal accidents	734	847
Property damage cases	229	325
Other offenses	362	262
New Parking violations	-	999
Overloading trucks	15	40

Totals	78,431	52,505
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Formal hearings	7,103	8,703
Court recommendations adopted:—		
Reckless and endangering	30	32
Going away after accidents	5	5
Without authority	0	0
Allowing improper person to operate	0	0
Totals	35	37

Persons whose licenses were suspended or revoked and who had to pass examination in order to have them returned	3,725	3,621
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ANALYSIS OF COURT ABSTRACTS RECEIVED

	1933	1934
Number of courts forwarding abstracts	95	95
Total abstracts received	46,381	48,443
Number of abstracts recording convictions	31,791	32,034

Offenses

(Analysis of convictions, not including appeals)

	1933	1934
Overspeeding	9,453	7,565
Reckless	10	8
Operating under influence of liquor	3,334	5,306
Using auto without authority	925	1,334
Endangering lives	1,642	2,499
Not stopping after causing injury	571	908
Without license	2,600	2,795
Without registration certificate	704	580
Unregistered vehicle	386	398
Improper display or no register number	155	147
Refusing to stop on signal	431	271
Unlighted lamps	444	376
Not signalling	1	3
Operating within 8 feet of street car	115	54
Violation of Metropolitan Park rules	169	292
Operating after suspension or revocation of license	559	657
Larceny	129	358
Manslaughter	1	1
Miscellaneous	1,512	1,303
Lenses not approved	1	0
No reflector	7	0
Racing	4	5
Operating after registration certificates revoked	11	2
No rear light	45	20
Not displaying lights	31	36
Passing red light	522	484
Improper lights	212	157
Brakes not as required by law	226	209

Violation of insurance law	447	408
Not slowing down approaching pedestrian	19	18
Not slowing down at intersecting way	5,015	3,980
Violation of law of road	1,986	1,723
Perjury—Making false statements on license application, falsely impersonating or conspiring to obtain a license	18	40
Loaning a license to another	13	5
Allowing intoxicated person to operate	6	4
Attempted larceny	34	33
Allowing improper person to operate	53	55
Totals	31,791	32,034

USED CAR SECTION
(Motor Vehicle Identification)

The following is a resumé of the work accomplished by the Used Car Section which indexes, under engine numbers, all motor vehicles registered and reported stolen, and checks reports of sales of used cars against the stolen-vehicle records. Dealers' and repairmen's plates and registration certificates are issued by this section.

The work of the section is summarized in the following tables: —

Dealers

	1933	1934
Total number of first class dealers reporting	1,135	1,178
Total number of second and third class dealers reporting	519	568
Total number making reports to this office	1,654	1,746

Reports

Approximate number of notices of intended sales received daily	280	309
Approximate number of dealers' reports received daily	878	953

Motor Vehicles Stolen

Number stolen in Boston	5,108	5,121
Number stolen in Massachusetts (including Boston)	9,743	7,427
Number reported stolen from various sources throughout the country, including Massachusetts	25,505	21,868
Number of motor vehicles recovered through information furnished by this office	368	385

Engine and Serial Numbers

Engine numbers assigned to cars	15	16
Certificates issued authorizing the replacement of engine numbers	370	588
Certificates issued authorizing the replacement of serial numbers	470	252
Certificates issued authorizing the replacement of both engine and serial numbers	15	16
Total number of authorization certificates issued	855	856

EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS

Two meetings of the Motor Vehicle Administrators were held in 1934, one in New York and the other in Chicago. No representatives of the department attended the meetings of the Conference.

ANALYSIS OF RECEIPTS

The fees received for the year 1934, together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table:

Certificates of Registration:

Passenger cars (including taxicabs)	827,719	\$2,454,006	22
Commercial cars	112,260	1,239,731	75
Busses	4,134	97,221	15
Trailers	752	27,621	00
Motor cycles	1,375	1,895	15
Manufacturers or Dealers (including repairers)	2,632	7,896	00
Manufacturers or Dealers additional cars (including repairers)	17,998	53,934	00
Licenses to operate:			
Original licenses	74,908	149,775	00
Renewal licenses	978,619	1,956,936	50
Examinations	67,590	\$135,180	
Re-examinations	15,441	15,441	

Total examinations	83,031	150,621	00
Copies of certificates and licenses furnished	36,526	36,524	00
Duplicate number plates furnished	11,556	11,556	00
Miscellaneous receipts, process fees, etc.		15,189	49

Total amount of fees	\$6,202,907	26
Motor vehicle fees rebated (deducted)	64,438	07

Net fees	\$6,138,469	19
Court fines received by the Treasurer and Receiver-General	431,413	19

Total receipts (not including gasoline tax*) credited Highway Fund Account, 1934	\$6,569,882	38
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* Receipts from gasoline tax are credited to the Highway Fund but collected through agencies other than the Registry.

EXPENSES OF THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles for the year 1934 was \$1,357,509.98, which was 22% of the net fees collected. This cost, deducted from the receipts for the year, left the sum of \$5,212,372.40 available for legislative appropriation for highway work.

ANALYSIS OF EXPENDITURES FOR THE FISCAL YEAR 1934

Payrolls

Personal Services:

Regular payroll	\$882,067	06
Overtime payroll	6,345	43
	<hr/>	\$888,412 49

Expenses

Supplies:

Books, maps, etc.	\$794	23
Typewriter supplies	1,388	98
Adding machine repairs and supplies	57	82
Other supplies	2,500	70
Stationery	16,364	10
Typewriter repairs	168	43
Other repairs	899	81
	<hr/>	\$22,174 07

Equipment and Furniture:

Typewriter machines	\$6,485	04
Adding machines	286	65
Other machines	2,213	77
Desks	1,061	80
Bookcases, tables, etc.	751	50

Filing cabinets	2,412 31	
Chairs	663 31	
Dictograph	4,939 10	
Expenses incurred by moving to new buildings	3,324 73	
Branches—Counters, Safe	2,942 33	
Headlight and Brake Testing Expense	959 58	
Uniforms	5,308 87	
		\$31,348 99
Traveling Expenses:		
Officials	\$1,981 40	
Employees	17,567 63	
Aviation	3,173 44	
Automobiles (owned by employees)	74,591 33	
Automobiles (owned by State):		
Maintenance of 12 automobiles	4,020 59	
Exchange of 5 automobiles	2,923 55	
Purchase of 1 automobile	607 54	
		\$104,865 48
Other Services and Expenses:		
Expressage	\$2,581 81	
Postage	80,093 67	
Paper for printing	7,872 22	
Printing:		
Other reports	1,761 91	
Other printing	7,404 63	
Telephone	1,307 11	
Premium on Bonds of Employees	467 27	
Rent	525 00	
Cleaning and Janitor Services	722 00	
Labor	584 10	
Number plates	158,772 37	
Direct Mail Lists	11,000 00	
Sundries	401 96	
Branch Offices:		
Rent, Telephone, Lighting	27,626 75	
Labor and Services	5,656 53	
Supplies and Express	3,381 66	
		\$310,158 99
<i>Publicity for Safety Work</i>		
Labels	\$549 96	
		\$549 96
		\$1,357,509 98
<i>Summary</i>		
Payrolls		\$888,412 49
Expenses		468,547 53
Publicity for Safety Work		549 96
		\$1,357,509 98

RELATING TO WATERWAYS AND PUBLIC LANDS BOSTON HARBOR

The Commonwealth Flats at South Boston

Commonwealth Pier 5

The work required to maintain the pier in effective operation has been continued during the year. Repairs have been made to gangways and floating fenders, to piles and fender cappings, to roofing, flashing, downspouts and sash, to the sprinkler system, to elevators and elevator machinery and to the heating plant.

Under contract of June 6, 1933, with A. A. Hersey and Son Company for driving piles and repairing the timber platform, work was completed Dec. 18, 1933, at a contract cost of \$3,779.05.

The cleaning and painting of all exterior structural steel work on the sides and outer end of the pier, under contract of Sept. 20, 1933, with Louis P. Steensen was completed Jan. 17, 1934, at a contract cost of \$3,447.49.

Work under contract of Nov. 23, 1933, with Maurice M. Devine, Inc., for replacing steel sash and broken lights of glass in the lower windows of the light wells, was completed Apr. 9, 1934, at a contract cost of \$9,173.80.

The installing of sixteen elevator gates upon four elevators, under letter contract of Nov. 21, 1933, with George T. McLauthlin Company, was completed Mar. 6, 1934, at a contract cost of \$2,400.

Work under contract of Sept. 26, 1933, with the Bay State Dredging and Contracting Company for dredging to a depth of 35 feet at mean low water to widen the approach to the east berth, was completed Feb. 19, 1934, at a contract cost of \$14,418.76.

A letter contract was made on Jan. 2, 1934, with Waghorne-Brown Company for repairing the shaftways of four elevators. Work was completed Jan. 31, 1934, at a contract cost of \$794.

On May 31, 1934, a contract was made with George T. McLauthlin Company for furnishing and installing new electric magnet brakes and appurtenant equipment and for repairs to east elevator No. 3. This work was completed Aug. 15, 1934, at a contract cost of \$875.

A letter contract was made on Aug. 7, 1934, with the American Chain Link Fence Company for two sets of metal gates at the entrances to the pier platforms. The work was completed Sept. 29, 1934, at a contract cost of \$320.

On Sept. 4, 1934, a contract was made with the Columbia Cornice Company for furnishing and installing thirty 16-inch and thirty 12-inch copper ventilators in the roof of the passenger shed, at the following contract prices: for each ventilator 16 inches in diameter furnished and installed \$27; for each ventilator 12 inches in diameter furnished and installed \$25. The work was completed Oct. 4, 1934, at a contract cost of \$1,560.

A contract was made on Oct. 30, 1934, with W. H. Ellis and Son Company to include repairs to pile and timber platforms at the pier. This work is now in progress.

On Nov. 7, 1934, a contract was made with the Atlantic Roofing and Skylight Works to include repairs to roof coverings at the pier. This work is now in progress.

A contract was made on Nov. 13, 1934, with John S. Leonard, to paint doors and sash in the Headhouse for the lump sum of \$285. This work is now in progress.

On Nov. 13, 1934, a contract was made with Maurice M. Devine, Inc., to replace existing steel sash and broken glass in the lightwells at the pier, at the following contract prices: for each light of glass furnished and set to replace broken glass 70 cents; for each new sash approximately 18 feet $4\frac{7}{8}$ inches by 9 feet $7\frac{3}{4}$ inches furnished and set in place \$112; for each new sash approximately 18 feet $4\frac{7}{8}$ inches by 8 feet $3\frac{3}{8}$ inches furnished and set in place \$90. This work is now in progress.

The contract made under date of June 13, 1934, with the Bay State Dredging and Contracting Company included the removal of a shoal area to widen the approach channel to the pier. At the completion on Aug. 20, 1934, of work under this contract a depth of 35 feet at mean low water had been provided over a larger area to ensure the safe and convenient access to the pier needed by the steamships using the east berth. The contract cost of this work was \$4,873.

A summary of freight and passengers using the pier in 1934 follows:

**FREIGHT AND PASSENGERS AT COMMONWEALTH PIER No. 5 DURING FISCAL YEAR
ENDING NOVEMBER 30, 1934**

Name of SS. Line	No. of Ships	In Freight		Total Tonnage	Out Freight		Total Ton- nage	Passengers		Total
		RR. (Tons)	Trucks (Tons)		RR. (Tons)	Trucks (Tons)		In	Out	
Am. Haw. SS. Co. . .	94	18,136	88,081	106,217	7,470	27,738	35,208	—	—	—
Luckenbach SS. Co. Inc. .	66	5,981	57,889	63,870	4,481	17,770	22,251	—	—	—
Norton, Lilly & Co. . .	26	4,067	7,865	11,932	—	—	—	19	—	19
Cunard White Star . .	47	1,782	4,318	6,100	3,543	3,831	7,374	2,628	3,398	6,026
Canadian Nat. SS. Co. .	77	51	913	964	—	—	—	2,435	2,282	4,717
Italian Line . . .	14	—	224	224	29	81	110	—	1,839	1,839
Int. Mer. Marine . . .	2	—	—	—	—	—	—	—	159	159
Byron SS. Co. . . .	6	—	—	—	—	—	—	—	635	635
Hamburg-Amer. Line .	2	—	—	—	—	—	—	134	147	281
TOTALS . . .	334	30,017	159,290	189,307	15,523	49,420	64,943	5,216	8,460	13,676

DEVELOPMENT OF LAND SOUTH OF SUMMER STREET

The seven sections of Storehouse No. 1 on E Street have been occupied during the year by the Wiggin Terminals, Inc.

Under a letter contract of Aug. 15, 1934, with the Progressive Iron Works, Inc., repairs were made to the doors at a contract cost of \$252. Repairs to the roof of the building are included in a contract dated Nov. 7, 1934, with the Atlantic Roofing and Skylight Works. This work is now in progress.

CASTLE ISLAND BULKHEAD

The Federal Government in 1918, after buying the area on the northerly side of the Reserved Channel for the construction of the Army Supply Base, proceeded to deepen the Reserved Channel to depths of 30 feet and 35 feet at mean low water, and arranged with the Commonwealth to deposit the dredged material upon the flats owned by the State on the south side of this Channel. To retain this material a bulkhead was built by the Commission on Waterways and Public Lands to complete the enclosing of an area bounded northerly by the Reserved Channel, easterly by Castle Island, southerly by Pleasure Bay and Marine Park, and westerly by Farragut Road. The material placed back of this bulkhead increased the upland of the Commonwealth by about fifty acres.

Very little filling was deposited directly back of the bulkhead extending toward Castle Island. An inspection of this part of the structure in 1934 showed that so much of the sheet piling had been carried away that the section in question should be either removed or reconditioned.

It appeared to the Department advisable to remove the south-easterly end of the section and to use the best of the material so recovered for repairs to the remaining bulkhead.

A contract was made on Nov. 27, 1934, with John P. Cavanagh for removing about 980 linear feet of the southeasterly end of the bulkhead extending from the Reserved Channel toward Castle Island and for repairing designated portions of the remaining bulkhead and the bulkhead on the south side of the Reserved Channel. The contract prices for this work are: for removing existing bulkhead and disposing of all material except that used in repair work, \$2.75 for each linear foot of bulkhead removed; for repairing bulkhead by splicing and patching, \$40 for each thousand feet, board measure, of lumber placed in the work; for repairing bulkhead by driving sheeting in front of old sheeting, \$60 for each thousand feet, board measure, of lumber placed in the work; for refitting and securing piles, \$5 for each pile refitted and secured; for furnishing all ship spikes, bolts and washers, 15 cents for each pound used in the work. Under this contract no work has yet begun.

THE COMMONWEALTH FLATS AT EAST BOSTON

Aircraft Landing Field — Boston Airport

The greater part of the area reclaimed by the Commonwealth at East Boston continues to be occupied by the city of Boston as an airport. On Aug. 10, 1928, under authority of Chapter 64 of the Resolves of that year, the Department leased to the city approximately 5,717,000 square feet of land for this purpose.

The use of an additional area of 4,210,760 square feet was authorized by a lease executed July 14, 1930, in accordance with the provisions of Chapter 53 of the Resolves of 1930. The matter of the lease to the city of two additional parcels, one northeasterly of the areas leased in 1928 and 1930, the other southeasterly of the parcel leased in 1930, is still pending.

The use of these areas by the city is subject to certain rights of occupancy and use granted by lease of June 30, 1922, to the War Department, with an option of annual renewals extended to June 30, 1937, by a supplementary agreement of Dec. 27, 1926.

RECLAMATION OF FLATS

The work of dredging and filling at East Boston under contracts made by the Department for the purpose of reclaiming flats has been in abeyance since 1923. Between that year and Nov. 30, 1934, approximately 2,911,000 cubic yards of material dredged from various locations in the harbor have been deposited in the receiving basin. In the year ending Nov. 30, 1934, about 399,960 cubic yards were dumped upon flats northerly of Governor's Island. The Commonwealth has reclaimed approximately 150 acres of land at East Boston.

Under licenses granted for building bulkheads, dredging and filling, the city of Boston has reclaimed for the extension of the Airport about 140 acres.

COMMONWEALTH PIER 1, EAST BOSTON

This pier has been used and occupied by John G. Hall and Company, Inc., during the year, under the terms of the lease dated Nov. 6, 1933, and a renewal for a term of one year executed on Nov. 20, 1934.

Work under contract of Nov. 28, 1933, with the Waghorne-Brown Company for erecting and constructing sixteen steel sliding doors to replace wooden cargo doors, was completed Mar. 16, 1934, at a contract price of \$2,293.92.

The repairs authorized by contract of Nov. 28, 1933, with the Murray Engineering Company were not begun until Jan. 23, 1934. This contract provided for the replanking of the deck of the west platform; the furnishing and installing of three new cast-iron bollards on the west side of the pier; the replacing of about 200 linear feet of fender cap on the west side of the pier; the replacing of the entire shed siding to a height of approximately 3 feet above the deck, batten down doors not to be replaced, and the making of repairs to the wooden hood over the track where required; the respiking of the outer platform and fastening it firmly to the girder caps. This work was completed Apr. 7, 1934, at a contract cost of \$2,134.54.

The contract of Oct. 30, 1934, with W. H. Ellis and Son Company was made to include repairs to pile and timber work at this pier, as well as at Commonwealth Pier 5, South Boston.

On Nov. 13, 1934, a contract was made with Ray Wason for the construction and erection of 16 steel sliding doors 14 feet by 16 feet to replace wooden cargo doors, at a contract price of \$146 for each steel sliding door furnished and erected.

On Nov. 20, 1934, a contract was made with Waghorne-Brown Company for building a movable gangway on the east side of the pier at a contract price, for furnishing and erecting the gangway in place in complete working order, of the lump sum of \$1,844. Under this contract no work has yet begun.

Amount expended during the year, \$6,842.05. Income from the pier received during the year, \$8,141.90.

BOSTON HARBOR — REMOVAL OF ABANDONED HULKS OR WRECKS

Work under contract of Aug. 1, 1933, with John Forward for removal of hulks or wrecks from Chelsea Creek adjacent to Condor Street near Glendon Street, East Boston, was completed Apr. 30, 1934, at a contract cost of \$3,400.

The removal of several wrecks and debris from Chelsea Creek on property of the Boston and Lockport Block Company at East Boston, the Quincy Oil Company, Chelsea, and the site of the old Chelsea Ferry in Boston Harbor on property of Etta C. Lowell, was completed, under contract of Aug. 29, 1933, with the M & R Construction Company, on Nov. 27, 1933, at a contract cost of \$1,395.

By Chapter 162 of the Acts of 1934, an appropriation of \$5,000 was made to provide for the continuance of the work during the current year.

A contract was made on Sept. 18, 1934, with George M. Byrne for removing several wrecks and debris on property of George B. Fitzpatrick at Jeffries Point, East Boston, and on property of the city of Boston at Savin Hill Bay, Dorchester, at the following contract prices: for removing and disposing of wrecks and debris from property of George B. Fitzpatrick at Jeffries Point, East Boston, the lump sum of \$350; for removing and disposing of wrecks and debris from property of the city of Boston at Savin Hill Bay, the lump sum of \$1,295. Work was completed Oct. 10, 1934, at a contract cost of \$1,645.

To give as much relief as possible to unemployment, in accordance with the intent of the original appropriations made for this work, the hulks removed from tide water were placed by the contractors upon upland areas at South Boston and East Boston, and additional labor was employed by the Department to cut the material into lengths suitable for use as fuel. The greater part of this wood was then given away, as a part of the relief work, to individuals who were willing to remove it.

BOSTON INNER HARBOR

The work of dredging an area off the entrance to Fort Point Channel to a depth of 25 feet at mean low water under contract of Sept. 26, 1933, with the Bay State Dredging and Contracting Company, was completed Jan. 9, 1934, at a contract cost of \$27,166.51.

A contract was made on June 13, 1934, with the Bay State Dredging and Contracting Company for dredging three areas: an enlargement of the approach channel to Commonwealth Pier 5 to a depth of 35 feet at mean low water; an area adjacent to Northern Avenue Bridge to a depth of 20 feet at mean low water; and an area adjacent to Central and India Wharves to a depth of 28 feet at mean low water. The contract prices for this work were: for dredging and disposing of the dredged material in the first area \$1.10 per cubic yard, scow measurement; in the second area 43 cents per cubic yard, scow measurement; in the third area 45 cents per cubic yard, scow measurement; for removing and disposing of boulders within the three areas \$20 per cubic yard. This work was completed Aug 20, 1934, at a contract cost of \$20,975.28 for the dredging adjacent to Northern Avenue Bridge and to Central and India Wharves.

HOUGH'S NECK, QUINCY

By the provisions of Chapter 322 of the Acts of 1934, the Department is authorized to enter into an agreement with the city of Quincy for the construction by the city of a sea wall or other shore protection along the water front in the Hough's Neck section. The statute requires the work to be done under the supervision of the Department and in accordance with plans and specifications which it prescribes. For the purpose an appropriation of \$10,000 was made by the Legislature.

On August 14, 1934, an agreement was made with the city of Quincy for the construction by the municipality of a granite sea wall about 840 feet long with riprap protection along the base, and the building of two stone jetties. The Department is to pay one-half the cost of all labor other than that furnished by the Federal Government, one-half the actual cost of materials and tools furnished, and one-half the actual prices paid for rental of machinery and equipment employed in the work, provided the total amount paid by the Commonwealth does not exceed \$10,000. This work is now in progress, and about twenty-five per cent of the project has already been carried out.

MYSTIC RIVER DREDGING

The work of dredging in Mystic River above Malden Bridge under contract of Oct. 10, 1933, with the Bay State Dredging and Contracting Company, was completed Jan. 9, 1934, at a contract cost of \$12,714.10.

A contract was made on Sept. 11, 1934, with the J. S. Packard Dredging Company for dredging in this river to a depth of 20 feet at mean low water, a channel of varying width from a point about 1,000 feet below Malden Bridge to a point about 900 feet above, at the following contract prices: for dredging and disposing

of the dredged material 34.5 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work is now nearly completed.

PLEASANT PARK, WINTHROP

The work of dredging a channel under contract of Nov. 28, 1933, with the Bay State Dredging and Contracting Company, was completed May 4, 1934, at a contract cost of \$12,389.58.

SOUTH BAY

The use of wharf property at South Boston by the Batchelder-Whittemore Coal Company was discontinued at the expiration on Mar. 31, 1934, of the lease of Mar. 3, 1924, from the Commonwealth. This property is now available for rental.

STONY BEACH, HULL

During 1933 the town of Hull and the County of Plymouth complied with the requirements of Chapter 330 of the Acts of 1933, relative to the protection of Stony Beach from erosion by the sea.

On Feb. 14, 1934, a contract was made with Bradford Weston to rebuild the present riprap dike for the protection of the shore for a length of approximately 2,375 linear feet, to rehandle existing stone and to place new stone at the following contract prices: for each ton of stone riprap furnished and placed in the complete work \$1.00; for rehandling all existing riprap \$200. Work was completed Aug. 18, 1934, at a contract cost of \$14,895.62. Toward the cost of this shore protection a contribution of \$4,000 each was made by the town and the county in accordance with the provisions of said Chapter 330.

WINTHROP HARBOR, WINTHROP

A contract was made on May 9, 1934, with the Bay State Dredging and Contracting Company for dredging a channel 60 feet wide on the bottom and about 3,800 feet long to a depth of 9 feet at mean low water, at the following contract prices: for dredging and disposing of the dredged material 42.5 cents per cubic yard, scow measurement; for removing and disposing of all boulders \$20 per cubic yard. This work was completed June 15, 1934, at a contract cost of \$14,017.35. Toward this cost a contribution of \$3,375 was made by the town of Winthrop.

MARINE BORERS

Early in the year Frank C. Shepard, Consulting Engineer of the Boston and Maine Railroad, suggested that the Department of Public Works assist the New England Railroads and others in the investigation of the action of marine borers along the New England coast.

This investigation is being carried on by a committee of railroad and waterway engineers called the "New England Committee on Marine Piling Investigation," of which Frank C. Shepard is Chairman, and Dr. William F. Clapp, Biologist.

As a means of determining the activity of the borers, test boards have been placed at different locations along the coast from New York to Eastport, Maine.

These test boards consist of a board 2" x 12" x 6' 4" long to which at intervals, 9 small blocks 6 inches square by 4 inches thick are bolted. With the exception of the middle block, called the control block, the blocks are numbered from 1 to 8 inclusive. The board is set with the bottom about 2 feet above the mud line. At intervals of one month, one numbered block and the control block are removed and sent to the laboratory of Dr. Clapp at Duxbury for examination. The blocks removed are replaced by new ones.

To help this investigation, the Department has placed four test boards in Boston Harbor at the following locations: Temporary bridge over Weymouth Fore River, at Quincy Point; Commonwealth Pier 5, South Boston; Commonwealth Pier 1, East Boston, and at the wharf owned by the Commonwealth in South Bay, Roxbury.

On Oct. 17, 1934, a letter contract was made with C. Ray Norris, diver, for making an examination of the foundation piles at Commonwealth Pier 1, East Boston, and Commonwealth Pier 5, and Grasselli Wharf, South Boston, at a cost

of \$29 per day, the contractor to furnish all labor, tools, appliances and equipment, except for diving scow and laborers to operate the air pumps furnished by the Commonwealth.

Under this contract 947 piles were examined at Pier 5, 252 piles at Pier 1, and 178 piles at Grasselli Wharf, at a contract cost of \$348.

Examinations of the foundation piles at Commonwealth Pier 5 have been made by the Department in the years 1925, 1932 and 1934. The first examination showed about 55% of the piles examined were affected by the marine borers, the second examination about 90% so affected and the latest test 92%. From the examination made this year it appears that about 10% of the piles are now at least one-half destroyed.

CIVIL WORKS ADMINISTRATION AND FEDERAL EMERGENCY RELIEF ADMINISTRATION

Early in November, 1933, the State Civil Works Administration requested the Department to furnish a list of projects with an estimate of the amount of labor, materials and equipment that would be required to carry them out.

The following projects were approved by the Civil Works Administration and continued under the Federal Emergency Relief Administration.

- Project No. 671. Repairs to Commonwealth Structures in East Boston and South Boston. These repairs consisted of replacement of flooring, broken glass, roof repairs, repairs to siding, and other miscellaneous repairs at Commonwealth Pier 5, South Boston and Commonwealth Pier 1, East Boston.
- Project No. 673, and 6608-23. Painting rooms and offices at Commonwealth Pier 5, South Boston and offices at Commonwealth Pier 1, East Boston.
- Project No. 674, and 6608-16. The grading and levelling of the area for parking space on the northerly side of Nashua Street, the removal of debris from Commonwealth lands at South Boston and the grading of the areas.
- Project No. 676, and 6608-25. Riprap protection at Pemberton Sea Wall, Hull. Riprap washed away from the wall was placed against the toe of the structure for better protection against undermining.
- Project No. 964, and 6608-14. Removal of wrecks and bulks from Boston Harbor at Jeffries Point, East Boston, and Savin Hill Bay, Dorchester.

The following tabulation shows the number of man hours worked and the amount paid for labor, equipment and materials.

Project No.	Number of man hours worked	Amount paid for labor	Amount paid for equipment	Amount paid for materials	Miscellaneous costs	Total cost
671	4,178	\$2,195 20	—	\$285.65	\$38 65	\$2,519 50
673, 6608-23	8,736	4,276 32	—	142 82	—	4,419 14
674, 6608-16	25,472	13,231 00	—	128 73	38 65	13,398 38
676, 6608-25	12,148	6,431 80	\$490 27	42 00	629 03	7,593 10
964, 6608-14	46,402	25,478 75	15,249 00	208 34	641 58	41,577 67
TOTALS	96,936	\$51,613 07	\$15,739 27	\$807 54	\$1,347 91	\$69,507 79

Of the total \$69,507.79 spent under the projects the labor and equipment, amounting to \$67,352.34, were paid for by the Civil Works Administration and the Federal Emergency Relief Administration and the materials and miscellaneous expenses amounting to \$2,155.45, were paid for by the Department of Public Works.

SHIRLEY GUT

Under the provisions of Chapter 19 of the Resolves of 1934, the Department is authorized to investigate the advisability of widening and deepening Shirley Gut in Boston Harbor between Winthrop and Deer Island. The Board has, accordingly, made both land and hydrographic surveys, a study of conditions now exist-

ing and of changes in the shore line and in the depths of water over the period from the earliest recorded survey to the present time. The results of this investigation are embodied in the special report to the General Court required by the terms of the statute.

SURVEYS

During the year surveys have been made in connection with the maintenance and operation of Commonwealth property and for the re-establishment of the harbor line in Chelsea Creek. Hydrographic surveys have been made in the Charles River, in the area between the main ship channel and the wharves along Atlantic Avenue, on the flats and in the receiving basin northerly of Governor's Island, in the approach channel to the east berth of Commonwealth Pier 5, in Pleasant Park Channel, Winthrop Harbor channel and portions of Mystic River.

RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, chapter 91 General Laws, an appropriation of \$75,000 was made during 1934 with the following condition:

"provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered."

An appropriation of \$22,500 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from the tide waters and great ponds.

Petitions were filed with the Department during the year for surveys and improvements in the following localities: Allens Harbor, Harwich; Bass River, Beverly; Bass River, Yarmouth; Connecticut River, Montague and Whately; Cotuit Harbor, Barnstable; Dennis shore protection at Dennisport, Swan Pond River and Taunton Avenue; Duxbury Harbor, Duxbury; Falmouth Heights, Falmouth; Hyannis Harbor, Barnstable; Jeremis Point, Wellfleet; Manomet Point, Plymouth; Nantasket Beach, Hull; Nobscusset Harbor, Dennis; Onset Bay, Wareham; Round Cove, Harwich; Sagamore Beach, Bourne; Singing Beach, Manchester; Stage Harbor, Chatham; West Bay, Barnstable; Yarmouth shore protection.

Public hearings have been held, certain estimates of cost made, but no work has been done to carry out the improvements petitioned for in Allens Harbor, Harwich; Bass River, Beverly; Connecticut River, Montague and Whately; Duxbury Harbor, Duxbury; Hyannis Harbor, Barnstable; Jeremis Point, Wellfleet; Nantasket Beach, Hull; Onset Bay, Wareham; Stage Harbor, Chatham; Yarmouth Shore Protection.

Information relating to work previously done in various rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands of the Department of Public Works, and in the tables of the Appendix accompanying the present report. These reports show localities, character of work, appropriations and expenditures by the Commonwealth and certain appropriations and expenditures by the Federal Government.

An account of work done during the year 1934 for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, follows:

BASS RIVER, YARMOUTH

Hearing was held on Jan. 10, 1934, on the petition of the Selectmen of Yarmouth for dredging the entrance channel in Bass River.

On May 15, 1934, a contract was made with the Bay State Dredging and

Contracting Company to include the dredging of the entrance channel to Bass River to a width of 60 feet on the bottom and a depth of 6 feet at mean low water, at the following contract prices: for dredging and disposing of the dredged material 49.5 cents per cubic yard, scow measurement; for removing and disposing of all boulders \$20 per cubic yard. The dredging under this contract was completed Aug. 27, 1934, at a contract cost for the work in Bass River of \$4,950. Toward this cost a contribution of \$2,500 was made by the town of Yarmouth.

Amount expended during the year, \$5,848.26. Total expenditure to Dec. 1, 1934, \$188,293.33.

CAPE COD CANAL LANDING PIER AT BOURNE

Work under contract of June 6, 1933, with the Durso Construction Company for the construction of a building upon this pier was completed Dec. 20, 1933, at a contract cost of \$22,375.42.

On Dec. 13, 1933, a contract was made with the Hibbert Plumbing Company, Inc., to furnish and install piping, radiators, unit heater, ducts, etc., to connect with the steam boiler installation in the building, at a contract price of \$573. The work was completed Feb. 19, 1934, at a contract cost of \$573.

After the completion of the construction and equipment of the pier the Department considered the establishment of permanent rates in substitution for the temporary charges in effect from Apr. 1, 1933. A public hearing was held to discuss this matter on Jan. 17, 1934.

Permanent rates were adopted by the Board on May 14, 1934, approved by the Governor and Council on May 16, 1934, and became effective on June 1, 1934.

The pier, now completed, is of solid fill construction, about 600 feet long, and provides a depth of 25 feet at mean low water in the dock. A light timber extension approximately 400 feet long is available as a tie up for vessels along the easterly side of the turning basin. The shed 36 feet wide and 200 feet long built upon the pier is of brick, steel and timber construction.

Amount expended during the year for construction, \$4,062.05, for operation and maintenance, \$4,545.82. Total expenditure to Dec. 1, 1934, for construction, \$262,424.72; for operation and maintenance, \$6,681.28.

CAPE POGE BAY, EDGARTOWN

The work of repairs and additions to the riprap and stone jetties at the outlet of Cape Poge Bay and the redredging of the entrance channel was adopted as a National Industrial Recovery project by the Federal Emergency Administration of Public Works and the State Emergency Public Works Commission in accordance with the plans and estimates made by the Department.

On June 26, 1934, a contract was made with the Bay State Dredging and Contracting Company to dredge the entrance channel 60 feet wide on the bottom and 6 feet deep at mean low water, to extend the southerly stone jetty and make repairs to the northerly stone jetty and to the riprap on the slopes of the dredged channel. The contract prices for this work were: for dredging and disposing of the dredged material 51 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard; for each ton of heavy stone riprap furnished in place in the completed work \$4.07; for each ton of stone chips furnished in place in the completed work \$4.07. This work was completed Nov. 5, 1934, at a contract cost of \$16,440.09.

Under this contract the southerly jetty has been extended about 100 feet and the channel redredged to a depth of 6 feet at mean low water and to width of 60 feet on the bottom.

Amount expended during the year, \$12,913.24. Total expenditure to Dec. 1, 1934, \$55,818.33.

CONNECTICUT RIVER

Hadley. During the spring freshet in Connecticut River a short section of the dike built in 1933 was overtopped by the flood and some damage done to the structure. The dike was repaired this year at a cost of about \$600.

Northfield. A small amount was expended this year at Northfield Farms to complete work begun under the provisions of the Federal Emergency Relief Administration C. W. A.

FEDERAL EMERGENCY RELIEF ADMINISTRATION

During the winter of 1933-1934 the Department co-operated with the Federal Emergency Relief Administration, C. W. A., in placing riprap upon the banks of the Connecticut River in Northampton, West Springfield, Hadley, Hatfield, Deerfield, Greenfield and Northfield. Toward the expense of these projects the Department contributed the cost of materials, equipment, and a part of the truck hire, in addition to providing for the supervision of the work. A brief description of the work done in the various localities follows:

At Northampton the west bank of the river was protected by placing 3,200 tons of riprap from the Northampton-Hadley Bridge southerly for a distance of about 610 feet.

At West Springfield 3,200 tons of riprap were placed upon the west bank of the river from the North End Bridge for a distance upstream of 1,463 feet.

At Hadley about 1,870 tons of riprap were placed for the protection of the river bank in the following locations: upon the east bank of the river from the Northampton-Hadley Bridge southerly for a distance of 165 feet; upon a section of the southerly bank of the river westerly of the northerly end of West Street for a distance of about 100 feet.

At Hatfield 1,660 tons of riprap were placed to protect the west bank of the river from a point 1,100 feet south of the Hatfield Ferry southerly for a distance of 510 feet.

At Deerfield the west bank of the river was protected from the Sunderland Bridge upstream for a distance of 557 feet. In Sunderland the east bank was protected from a point 1,300 feet south of the Sunderland Bridge for a distance of 250 feet downstream. The total amount of riprap placed was 4,754 tons.

At Greenfield 4,320 tons of riprap were placed upon the west bank of the river from the Montague Bridge downstream for a distance of 610 feet.

At Northfield the west bank of the river was protected by the placing of riprap in the following locations: From a point 260 feet above Schell Bridge for a distance of 315 feet upstream; from the Central Vermont Railroad Bridge downstream for a distance of 670 feet. At Northfield Farms the east bank of the river was protected by placing riprap from Ten Mile Brook upstream for a distance of 830 feet. The total amount of riprap placed in Northfield was 11,454 tons.

COTUIT HARBOR AND WEST BAY CUT, BARNSTABLE

On Jan. 10, 1934, hearing was held upon the petition of the Selectmen of Barnstable for redredging West Bay Cut and the entrance channel to Cotuit Harbor.

A contract made on May 15, 1934, with the Bay State Dredging and Contracting Company included the dredging at the entrance to Cotuit Harbor of a channel 100 feet wide on the bottom and 6 feet deep at mean low water, a channel west of Sampson's Island 200 feet wide on the bottom and 6 feet deep at mean low water, and the entrance channel to West Bay 100 feet wide on the bottom and 6 feet deep at mean low water. The contract prices for this work were: for dredging and disposing of the dredged material 49.5 cents per cubic yard, scow measurement; for removing and disposing of all boulders \$20 per cubic yard. Work under this contract was completed Aug. 27, 1934, at a contract cost of \$10,410.35 for the dredging in Cotuit Harbor and West Bay. Toward this cost a contribution of \$5,750 was made by the town of Barnstable.

Amount expended during the year, \$9,323.44. Total expenditure to Dec. 1, 1934, \$92,828.26.

DENNIS SHORE PROTECTION

Dennisport. On Jan. 10, 1934, hearing was held on a petition of Peter J. Haigis and others for the construction of a jetty for shore protection.

A contract was made on June 26, 1934, with Frederick V. Lawrence to build a stone jetty at a point opposite the Haigis property on the Dennisport shore at a contract price of \$2.90 for furnishing and placing stone riprap and granite chips in the jetty. On Sept. 18, 1934, under this contract, a stone jetty 125 feet long was completed at a contract cost of \$1,057.54. Toward this cost a contribution of \$600 was made by property owners interested in the work.

Taunton Avenue. On Apr. 11, 1934, hearing was held upon a petition of the

Selectmen of Dennis for the construction of two stone jetties near the end of Taunton Avenue.

A contract was made on July 17, 1934, with Thomas Whalen and Sons, Inc., to build two stone jetties on the shore at and westerly of Taunton Avenue at a contract price of \$2.42 for each ton of 2,000 pounds of granite stone riprap and granite chips furnished and placed in the completed work. Under this contract two jetties each about 175 feet long, were completed Sept. 8, 1934, at a contract cost of \$1,753.05. Toward this cost contributions of \$600 each were made by the town and county.

Swan Pond River. On Apr. 11, 1934, hearing was held upon a petition of the Selectmen of Dennis, and others, for the building of a jetty for shore protection at the mouth of Swan Pond River.

A contract was made on June 26, 1934, with Frederick V. Lawrence for building two stone jetties at and near the entrance to the river, at a contract price of \$2.53 for each ton of 2,000 pounds of stone riprap and granite chips furnished and placed in the completed work. Under this contract two stone jetties, one 300 feet long and the other 210 feet long, were completed Sept. 7, 1934, at a contract cost of \$3,239.67. Toward this cost contributions of \$875 each were made by the town and by the county.

West Dennis. Work under contract of Nov. 28, 1933, with Sidney W. Lawrence for building a stone jetty at Bathhouse Beach at property of the town, was completed Dec. 20, 1933, at a contract cost of \$1,395. Toward this cost contributions of \$375 each were made by the town and the county.

Amount expended for shore protection in Dennis during the year, \$9,122.47. Total expenditure to Dec. 1, 1934, \$10,063.27.

FALMOUTH SHORE PROTECTION

On Apr. 11, 1934, hearing was held on the petition of the Park Commissioners of Falmouth for rebuilding the sea wall at Terrace Gables, Falmouth Heights.

A contract was made on June 13, 1934, with Frederick V. Lawrence for placing stone riprap against the existing concrete sea wall, repairing the wall and placing back fill, at the following contract prices: for each ton of stone riprap furnished and placed in the completed work \$3.15; for furnishing material and constructing concrete repairs to the sea wall \$30 for each cubic yard of concrete measured in place in the completed work; for each cubic yard of material for back fill furnished, delivered and measured in place in the completed work, 75 cents. This work was completed Oct. 11, 1934, at a contract cost of \$2,168.12. Toward this cost a contribution of \$1,250 was made by the town of Falmouth.

Amount expended during the year, \$2,235.31. Total expenditure to Dec. 1, 1934, \$72,903.02.

HARWICH SHORE PROTECTION

On Dec. 6, 1933, a contract was made with Louis A. Byrne for building seven stone jetties on the beach east of Allens Harbor, for extending jetty and riprap at West Harwich Beach, and repairing jetty and riprap at South Harwich, at a contract price of \$2.74 for each ton of 2,000 pounds of stone riprap and granite chips furnished and placed in the completed work. This project was completed Mar. 8, 1934, at a contract cost of \$7,327.86. Toward this cost contributions of \$2,000 each were made by the town and the county.

Amount expended during the year, \$7,979.68. Total expenditure to Dec. 1, 1934, \$39,801.92.

MANOMET POINT, PLYMOUTH

In February the County Commissioners of Plymouth County asked assistance from the Department in protecting the shore along Manomet Point Road near the Coast Guard Station from the erosion threatening the roadway and the bluff. A survey was made and a plan prepared for shore protection to be carried out by the Board with the aid of contributions from the town and county.

A contract was made on Aug. 21, 1934, with M. J. Crowley for furnishing and placing about 4,250 tons of stone riprap and chips and about 7,200 cubic yards of back filling to protect about 550 linear feet of bank on the northerly side of Manomet Point. The contract prices are: for each ton of stone riprap furnished in

place in the completed work \$1.75; for furnishing material and filling bank back of the riprap 30 cents for each cubic yard of fill measured in place in the completed work. Under this contract work is now in progress.

Amount expended during the year, \$6,642.46. Total expenditure to Dec. 1, 1934, \$6,642.46.

MEGANSETT HARBOR, FALMOUTH

In May the Department received complaints from owners of boats relative to obstructions in the inner portion of the channel previously dredged at Megansett. A survey revealed that the channel originally dredged to a depth of 6 feet and a width of 60 feet had shoaled to a maximum depth of 3 feet and a width of about 20 feet.

A letter contract was made on June 13, 1934, with the Bay State Dredging and Contracting Company for dredging about 1,600 cubic yards of material to remove shoals from this channel, at a contract price of 68 cents per cubic yard. This work was completed July 10, 1934, at a contract cost of \$1,088. Toward this cost a contribution of \$600 was made by the town of Falmouth.

Amount expended during the year, \$1,343.18. Total expenditure to Dec. 1, 1934, \$53,459.84.

NAHANT SHORE PROTECTION

Under contract of Oct. 10, 1933, with the M. McDonough Company heavy stone riprap for the protection of the shore was placed for a length of 2,639 feet along the westerly side of Nahant Road from Wilson Road southerly to Castle Road and for a short distance parallel with Castle Road. The work was completed Feb. 14, 1934, at a contract cost of \$29,053.02. Toward this cost a contribution of \$15,000 was made by the town before the work began, in accordance with the requirement of Item 591a of Chapter 371 of the Acts of 1933.

Amount expended during the year, \$27,798.76. Total expenditure to Dec. 1, 1934, \$30,177.19.

NEW BEDFORD STATE PIER

Under lease of Apr. 27, 1933, a portion of this pier has continued to be occupied by the Lamport Manufacturing Supply Company, Inc. This indenture provides for the use by the Company of a specified part of the pier for a term of three years at a rental of \$5,500 per year.

The contract made Nov. 28, 1933, with the National Gunite Contracting Company provided for removing the plaster walls on the north side of the wooden shed, replacing the walls with gunite, removing sliding doors, closing four doorways with gunite, furnishing and erecting three new overhead type doors and making repairs to the elevator shaft above the roof of the wooden shed by the gunite process. The contract prices for this work were: for removing plaster wall on the north side of pier and replacing it with gunite, including framing and new gunite in doorways and all incidental work, the lump sum of \$1,460; for placing new gunite surface one inch thick on exposed face of elevator shaft, and on inner and outer corners of steel shed, the lump sum of \$615; for furnishing and erecting two new steel sash in the elevator sash, the lump sum of \$50; for furnishing and erecting three doors of type specified complete and ready to operate, \$500. This work was completed Mar. 14, 1934, at a contract cost of \$2,663.13.

At the close of the year three steamship lines in coastwise traffic were making weekly calls at the pier, and in addition, occasional loads of lumber from the Pacific coast ports were unloaded. The facilities available are now in use to their full capacity and the demand is increasing for more space upon the pier for cargo.

Minor repairs to the pier have been made as usual during the year.

Amount expended for operation, maintenance and improvement during the year, \$7,014.72.

Income during the year, \$23,921.89.

Total expenditure for operation, maintenance and improvement to Dec. 1, 1934, \$80,543.01.

NOBSCUSSET HARBOR, DENNIS

Work under contract of September 19, 1933, with Sidney W. Lawrence for building two stone jetties west of Nobscusset Harbor, was completed Dec. 8, 1933, at a contract cost of \$2,081.71. Toward this cost a contribution of \$600 each was made by the town and the county.

On Dec. 21, 1933, a letter contract was made with Sidney W. Lawrence for placing 100 tons of stone riprap in front of a short section of timber breakwater at Nobscusset. This work was completed Jan. 13, 1934, at a contract cost of \$320. Toward this cost a contribution of \$160 was made by the town.

Hearing was held on Apr. 11, 1934, on the petition of the Selectmen of Dennis for reinforcing with heavy rock the westerly extension of the timber breakwater at this harbor, and for dredging the basin.

A contract was made on June 12, 1934, with Frederick V. Lawrence for repairing with stone riprap the westerly side of the breakwater and for excavating an anchorage basin 200 feet long and 90 feet wide on the bottom to mean low water in Nobscusset Harbor, at the following contract prices: for each ton of stone riprap furnished in place in the completed work \$2.60; for excavating and disposing of the excavated material 25 cents for each cubic yard measured in place and deposited in the disposal area. This work was completed Aug. 24, 1934, at a contract cost of \$1,724. Toward this cost contributions of \$500 each were made by the town and the county.

Amount expended during the year, \$2,393.57. Total expenditure to Dec. 1, 1934, \$43,778.79.

OAK BLUFFS SEA WALLS

A contract was made on May 31, 1934, with Frank A. Days and Sons for building a concrete sea wall about 520 linear feet in length at the Bathing Beach in Oak Bluffs at a contract price of \$16.45 for each cubic yard of concrete measured in place in the completed work. Under this contract the sea wall was completed July 24, 1934, at a contract cost of \$8,994.

On July 24, 1934, a letter contract was made with Merle C. Washburn for placing filling between the sea wall and the street. This work was completed Aug. 4, 1934, at a contract cost of \$1,571.44.

Toward the cost of this sea wall and of the filling a contribution of \$6,000 was made by the town.

A letter contract was made on Oct. 8, 1934, with S. M. Fisher for repairs to spur jetties along the beach northerly of the new wall and for the removal of an old jetty about 150 feet south of the Bath House. This work was completed Nov. 17, 1934, at a contract cost of \$520.

Amount expended during the year, \$12,003.66. Total expenditure to Dec. 1, 1934, \$160,679.24.

COMMONWEALTH PROPERTY AT PLYMOUTH

An appropriation of \$3,800 was made by the Legislature this year for the maintenance and repair of property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Department by vote of the Governor and Council on July 17, 1924.

The usual care has been given to the pier and the grounds during the year and minor repairs made as they became necessary.

The State Pier at Plymouth is now in a condition requiring extensive repairs unless its use for docking excursion steamers is to be discontinued and the public excluded from the premises. Investigation of the piling has shown a large amount of damage caused by marine worms, particularly by "teredo navalis." The Department believes that the entire pier should be removed to be replaced by a structure of creosoted timber and piles. While repairs might be made to allow the use of the present pier for another year, the state of the piling does not warrant a large expenditure for the purpose.

Amount expended during the year, \$3,515.74. Total expenditure to Dec. 1, 1934, \$51,572.22.

PROVINCETOWN HARBOR

Shore Protection. Early in the year the Department found repairs badly needed to the riprap placed in 1926 for the protection of the State Highway at Provincetown, and serious erosion threatening the recently completed scenic highway along the Bathing Beach on the Province Lands.

A contract was made on June 13, 1934, with Joseph W. Nickerson for repairing the riprap along the shore in front of the State Highway for a length of about 2,000 linear feet at the following contract prices: for each ton of stone chips furnished in place in the completed work \$2.75; for rehandling about 200 tons of heavy stone riprap and replacing it within the limits of the existing riprap the lump sum of \$49. This work was completed Aug. 15, 1934, at a contract cost of \$2,929.93.

On June 13, 1934, a contract was made also with Arthur K. Finney for building four stone jetties at the Bathing Beach on the Province Lands at a contract price of \$3.07 for each ton of stone riprap or chips furnished in place in the completed work. These jetties were completed September 25, 1934, at a contract cost of \$7,839.28.

Dredging. In May request was made by the Selectmen of Provincetown for the dredging of the berth at the end of the steamboat wharf to a depth of 15 feet at mean low water.

A letter contract with the Bay State Dredging and Contracting Company was made on June 25, 1934, for dredging three areas at the end of the steamboat wharf in Provincetown Harbor at a contract price of 85 cents per cubic yard, scow measurement. This work was completed June 29, 1934, at a contract cost of \$4,250. Toward this cost a contribution of \$2,500 was made by the town.

Amount expended for shore protection and dredging during the year, \$16,572.18.

Total expenditure for shore protection and dredging to Dec. 1, 1934, \$45,302.99.

PROVINCETOWN TERCENTENARY COMMISSION

During the year the land at Provincetown acquired by the Provincetown Tercentenary Commission and placed under the control of the Department June 23, 1926, has been cared for from funds appropriated for the use of the Province Lands. One employee of the Department has been kept at work during the summer to maintain this park in proper condition.

ROCK HARBOR CREEK, ORLEANS

On Jan. 10, 1934, hearing was held upon the petition of the Selectmen of Orleans for the construction of a bulkhead on the southerly side of the Rock Harbor Creek for the protection of a public highway.

A contract with Frank A. Days and Sons was made on June 26, 1934, for furnishing materials and building about 264 linear feet of creosoted timber bulkhead and platform in front of the existing bulkhead at Rock Harbor, at a contract price of \$28.92 for each linear foot of completed bulkhead and platform in place. This work was completed Nov. 2, 1934, at a contract cost of \$7,634.88. Toward this cost contributions of \$2,000 each were made by the town and the county.

Amount expended during the year, \$7,958.73. Total expenditure to Dec. 1, 1934, \$28,791.24.

NAMEQUOIT RIVER AND PLEASANT BAY

ROUND COVE, HARWICH

On Jan. 10, 1934, hearing was held on the petition of the Selectmen for dredging the entrance channel to Round Cove from Pleasant Bay.

A contract was made June 13, 1934, with Arthur K. Finney for dredging a channel from Pleasant Bay to Round Cove for a length of 700 feet to a width of 30 feet on the bottom and a depth of 3 feet at mean low water, at the following contract prices: for dredging and disposing of the excavated material 27 cents per cubic yard; for removing and disposing of boulders \$10 per cubic yard. This work was completed July 19, 1934, at a contract cost of \$933.39. Toward this cost a contribution of \$750 was made by the town.

Under letter contract of Sept. 11, 1934, with Fred Crowell a light barrier of

piles and wire mesh weighted with brush, on the easterly side of the channel, was completed Oct. 1, 1934, at a contract cost of \$175.

Amount expended during the year, \$1,553.03. Total expenditure to Dec. 1, 1934, \$1,553.03.

SAGAMORE BEACH, BOURNE

Hearing was held Jan. 10, 1934, on the petition of the Selectmen, and others, for protective work at Sagamore Beach.

On May 22, 1934, a contract was made with Thomas Whalen and Sons, Inc., for building four stone jetties and placing heavy stone riprap at Sagamore Beach, at a contract price of \$2.47 per ton of 2,000 pounds for stone riprap or chips furnished in place in the completed work. Under this contract work was completed Aug. 3, 1934, at a contract cost of \$9,691.59. Toward this cost contributions of \$2,500 each were made by the town and the county.

Amount expended during the year, \$10,512.98. Total expenditure to Dec. 1, 1934, \$10,519.83.

LYNN HARBOR AND SAUGUS RIVER

SAUGUS RIVER, REVERE

For some years the Department has received complaints from the Point of Pines Yacht Club concerning boulders in Saugus River opposite the Club House. An examination made in July showed that these boulders constitute a menace to the safe navigation of boats using the Club floats.

On July 25, 1934, a letter contract was made with the Crandall Engineer Company for removing a few boulders or points of ledge in the river opposite the Club House. The work was completed Aug. 28, 1934, at a contract cost of \$350. More of this material should be removed from the location next year.

Amount expended during the year, \$350. Total expenditure to Dec. 1, 1934, \$165,877.54.

SCITUATE SEA WALLS AND SHORE PROTECTION

Work under the provisions of Chapter 286 of the Acts of 1933, and under annual appropriations by the Legislature, has been continued during the year in the following localities:

Sand Hills

A letter contract was made with Frank H. Barry on Dec. 7, 1933, for repairing the sea wall originally constructed by the County of Plymouth at the Sand Hills. After repairs had been made to a short section of the wall the work was interrupted by the extreme cold. Later in the year the work was resumed on a basis of day labor. Portions of the face of the wall have been repaired and about 148 linear feet of concrete footing built under the structure. This work was completed Mar. 8, 1934, at a contract cost of \$138.13.

Shore Acres

The work under contract of Sept. 5, 1933, with A. K. Finney for building about 930 linear feet of concrete sea wall and placing riprap, was completed Mar. 10, 1934, at a contract cost of \$13,991.49.

Under contract of Sept. 12, 1933, with Thomas H. Hannaford for building a concrete sea wall, seven stone jetties and placing riprap in front of Oceanside Drive at Shore Acres, work was completed June 1, 1934, at a contract cost of \$31,421.78.

Hearing was held on Dec. 4, 1933, upon the request of the Selectmen for the completion, as originally intended, of the full length of this wall from a point northerly of Fourth Avenue to Eleventh Avenue. Upon the receipt of satisfactory releases from all the property owners, a letter contract was made on May 8, 1934, with Thomas H. Hannaford to build, under the terms and conditions of his contract of Sept. 12, 1933, the additional section necessary to complete the wall. This work is now in progress.

Third Cliff

The work of placing heavy stone riprap and stone chips along the shore at Third Cliff under contract of Sept. 5, 1933, with Raymond A. Bergeson, was completed Dec. 8, 1933, at a contract cost of \$10,640.

Amount expended in Scituate for shore protection during the year, \$33,089.32. Total expenditure for shore protection in Scituate to Dec. 1, 1934, \$484,098.31.

SINGING BEACH, MANCHESTER

On Jan. 10, 1934, hearing was held upon the petition of the Chairman of the Committee on Beach Protection, of Manchester, for protective work at Singing Beach.

A contract was made on Aug. 28, 1934, with Thomas A. Mackey for grading about 4,000 square yards of bank, placing about 1,000 cubic yards of coarse gravel or crushed stone and furnishing and placing 4,400 tons of stone riprap paving on the slope at Singing Beach at the following contract prices: for each ton of riprap furnished and placed in the completed work \$1.85; for each cubic yard of gravel or crushed stone furnished and placed in the completed work 90 cents; for each square yard of bank graded, including the furnishing of material and incidental work, 20 cents. This work is now in progress.

Amount expended during the year, \$3,936.90. Total expenditure to Dec. 1, 1934, \$4,018.70.

STAGE HARBOR, CHATHAM

Work under letter contract of Nov. 29, 1933, with Joseph W. Nickerson for furnishing and delivering stone riprap to be used to protect the sea face of the dike to be built as a C. W. A. project, was completed Jan. 11, 1934, at a contract cost of \$1,290.90.

In May the Department authorized the placing of sod and riprap upon the dike at a cost of approximately \$300.

Amount expended during the year, \$3,109.65. Total expenditure to Dec. 1, 1934, \$14,901.80.

WARRENS COVE, PLYMOUTH

Work under contract of May 16, 1933, with A. K. Finney for placing stone riprap and chips for shore protection, to make repairs to an existing concrete sea wall and to build two concrete jetties, was completed Dec. 20, 1933, at a contract cost of \$6,244.36. Toward this cost a contribution of \$2,500 was made by the town.

Amount expended during the year, \$4,171.01. Total expenditure to Dec. 1, 1934, \$38,412.87.

WEST BAY, BARNSTABLE

In April the Department received a report from the engineer upon an examination of the inshore end of the westerly jetty at West Bay, where erosion had increased during the winter to a degree that made necessary immediate repairs to the structure.

A contract was made on May 13, 1934, with the Bay State Dredging and Contracting Company for placing about 250 tons of heavy stone riprap and about 350 tons of stone chips at the northerly end of the west jetty and along the west bank of the channel at West Bay, at a contract price of \$5.34 for each ton of stone riprap or stone chips furnished and placed in the completed work. Under this contract the repairs were completed Sept. 25, 1934, at a contract cost of \$3,233.69.

No expenditure during the year. Total expenditure to Dec. 1, 1934, \$120,337.08.

WEST CHOP, TISBURY

On Aug. 28, 1934, a contract was made with the Merritt-Chapman and Scott Corporation for repairing five stone jetties, extending two stone jetties and building a stone riprap apron at the base of the bank, at West Chop, at a contract price of \$4.86 for each ton of stone riprap or chips furnished in place in the com-

pleted work. Under this contract work is now in progress. Toward the cost of this protection of the shore a contribution of \$2,500 has been made by the town and contributions amounting to \$1,500 by property owners.

No expenditure during the year. Total expenditure to Dec. 1, 1934, \$5,116.07. 1934, \$5,116.07.

WINTHROP BREAKWATER

By Chapter 286 of the Acts of 1934, the Department was authorized to extend the breakwater off Winthrop Shore Drive, upon condition that no work is begun until the town of Winthrop has paid into the State Treasury the sum of \$16,000 to be used with an appropriation of not more than \$80,000 to be made by the Legislature.

In June the Legislature appropriated \$80,000 for the purpose and in August the required contribution was received from the town.

A contract was made on Aug. 1, 1934, with William R. Farrell for building an extension to the present breakwater in Broad Sound off Winthrop Shore Drive, at a contract price of \$1.97 for each ton of stone riprap furnished in place in the completed work. Under this contract work is now in progress.

Amount expended during the year, \$88,983.32. Total expenditure to Dec. 1, 1934, \$297,844.85.

Miscellaneous

GREAT PONDS

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by Chapter 318, Acts of 1888. This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was later given by Chapter 379, Acts of 1904, now section 2, Chapter 91, General Laws.

During the year the Department has considered matters relating to: Alum Pond, Sturbridge; Asneconick or Comet Pond, Hubbardston; Bartlett's Pond, Plymouth; Blackmore's Pond, Wareham; Glenmere or Floating Bridge Pond, Lynn; Keyes Pond, Westford; Lake Congamond, Southwick; Lake Quinsigamond, Worcester and Shrewsbury; Lake Tashmoo, Tisbury; Lake Winthrop, Holliston; Lead Mine Pond or Quassac Lake, Sturbridge; Little Sandy Pond, Pembroke; Lovell's Pond, Barnstable; Oldham Pond, Pembroke; Smelt Pond, Kingston; Snipatuit Pond, Rochester; Spy Pond, Arlington; Windsor Pond, Windsor.

Surveys were made this year of the following great ponds:

Lake Quinsigamond, Worcester and Shrewsbury

Area at time of survey	534	Acres
Area of natural pond		
in two ponds	447.69 A.	
	15.105 A.	462.795 Acres
Area at time of survey divided		
between city of Worcester	131.896 A.	
and town of Shrewsbury	402.104 A.	
Area of natural pond divided:		
Worcester	120.803 A.	
Shrewsbury	326.888 A.	
Separate natural pond	15.105 A.	
Maximum depth	86.9	feet

Flints Pond, Worcester, Grafton, Shrewsbury

Area at time of survey	316.863	Acres
Area of natural pond	65.188	Acres
Area at time of survey divided:		
Worcester	29.083 A.	
Grafton	96.903 A.	
Shrewsbury	190.877 A.	

Area of natural pond divided:

Worcester	20.948 A.	
Grafton	16.251 A.	
Shrewsbury	27.989 A.	
Maximum depth		18.10 feet

Hovey Pond, Grafton

Area at time of survey	86.850 Acres
Area of natural pond	21.394 Acres
Maximum depth	22.80 feet

Long Pond, Brewster

Natural pond area at time of survey	35.3 Acres
Maximum depth	34 feet

Higgins Pond, Brewster

Natural pond area at time of survey	29.03 Acres
Maximum depth	75 feet

ACCESS TO GREAT PONDS

On Nov. 27, 1934, a petition signed by ten citizens of the Commonwealth was presented to the Board under the provisions of Chapter 453 of the Acts of 1923, requesting the establishment of a right of way for public access to Asneconick or Comet Pond in Hubbardston. Hearing before the Joint Board on this petition has been assigned for Dec. 12, 1934.

PROVINCE LANDS

The area of approximately 3,810 acres, now known as the Province Lands at Provincetown, is a part of a larger territory at the extremity of Cape Cod similarly designated in the time of the Province of Massachusetts Bay, and included in the original grant to the Colony of New Plymouth by royal patent of January 13, 1629-30. Although the Colony later transferred other portions of its domain to sub-colonies or plantations this particular territory was retained. In 1654 the Governor of the Plymouth Colony, under an Order from its General Court in 1650, bought the entire area from an Indian named Sampson, who gave a deed at the time. Later two other Indians claimed ownership and gave with Sampson a confirmatory deed in 1679.

When the Province of Massachusetts Bay acquired in 1692 the lands of the Plymouth Colony the whole area at the extremity of Cape Cod became known as the Province Lands. Chapter 11 of the Province Laws of 1727 incorporating the town of Provincetown, expressly reserved the rights of the Province to these lands and enabled them to become the property of the Commonwealth of Massachusetts when the provincial government came to an end. By sections 8 and 9 of Chapter 261 of the Acts of 1854, the ownership of the State was emphatically asserted.

The value to the harbor of Provincetown of the protective vegetation upon the sand dunes of these lands was early recognized by the Colonial Government. The preamble to Chapter 3 of the Acts of 1714 states:

"Whereas, the harbor at Cape Cod, being very useful and commodious for fishing, and the safety of shipping, both inward and outward bound, is in danger of being damnified, if not made wholly unserviceable, by destroying the trees standing on the said cape (if not timely prevented), the trees and bushes being of great service to keep the same from being driven into the harbor by the wind." . . .

The menace to the harbor began with the use of the land by the early settlers for the drying of fish. The continuance of this practice injured the grass and shrubs and released the sands to shift with the winds. As the settlement increased trees were cut for buildings and wharves and cattle and horses were allowed to graze upon the lands. The report of a special commission appointed in 1825 to report upon the harbor states "The space where a few years ago were some of the highest lands on the cape, covered with trees and bushes, now presents an extensive waste of undulating sand."

As a result of this report an appeal was made to the Federal Government for assistance in the protection of the harbor, and legislation was enacted by the State to prevent the destruction of beach grass, bushes, trees and sod upon the lands. Although the Federal Government spent a considerable sum in replanting beach grass and the State endeavored to prevent further exploitation of the area, the increase of population at Provincetown and the lack of necessary officials to enforce the laws, allowed the devastation to continue. The conditions in 1893 were described in a report made by the Trustees of Public Reservations in the following terms:

"Half of the province land is already a treeless waste. The Commissioners of 1825 reported to the General Court that this desert was the result of the stripping of vegetation from the seaward sand hills. We find today that, once the mat of plant roots is removed from a windward slope, the northwest gales cut into the wounded place and proceed to undermine the adjacent plant-covered slopes. The sands blown out of such places are dumped in the lee, in the nearest hollow, burying the trees and bushes and stifling them to death. Once rid of the trees, the sands are drifted by the winds like snow. The beach grass planted by the government seems to have stayed the destruction of the old ridges in some measure; but the wheels of carts continually crossing the sand drifts in the direction of the worst gales soon broke the grassed surface so that the wind got hold, "blew out" great areas, and dumped the sand in such steep drifts in the edges of the woods that many cart paths became impassable, so that new routes were sought, where the operation was repeated. Within the province lands the grassy Snake Hills and the wooded ridge called Nigger Head have bravely withstood the gales without serious change since Major Graham surveyed the field in 1833-1835; but between these two points the winds have made great havoc. Wooded knolls have been cut in two, ponds filled up, and much woodland buried. East of Nigger Head and towards eastern harbor, (now known as Pilgrim Lake,) beyond the bounds of the province lands, the changes have been even more violent. Several salt creeks have been wholly filled up, and former sand ridges levelled so that the hulls of vessels on the ocean are now visible from the harbor."

To remedy the serious conditions reported by the Trustees, Chapter 470 of the Acts of 1893 was passed giving to the Harbor and Land Commissioners the general care and jurisdiction of about 3,235 acres of the lands lying north and west of a line defined by the statute, authorizing the Board to fix and mark the bounds of the province lands under its control, and releasing the part of the territory lying east and south of the line from the claims of the State to ownership of the lands in fee. The effect of this statute was to continue State ownership in the area reserved by the Commonwealth and to release to private ownership about 955 acres, including the inhabited part of the town of Provincetown. Since 1893 the term Province Lands has been restricted to the territory reserved by the State.

The Harbor and Land Commissioners proceeded at once to fix and mark the bounds of the lands and to begin the work of reclamation. At the time very little work of this character had been done in the United States, and although the advice of experts in the service of the Federal Government was freely given, the particular conditions at this part of the Cape made experimentation necessary.

By 1895, however, the Harbor and Land Commissioners were convinced of the efficacy of beach grass in arresting the movement of the sand. Their report for that year says:

"We have been planting beach grass along the sands under the lee of existing vegetation and on the northern range of sand hills, until an area of 13 acres has been covered. This has taken root readily and already gives promise of its ability to resist the sand storms."

A later report calls attention to the conditions which such planting meets.

"The growth must continue under peculiar hardships, for the heavy winter winds, usually from the northeast or northwest, blow with great velocity and often terrific force, with which the loose sand drifts like snow and vegetation has a hard chance for life. Gale velocities of 50 to 60 miles an hour are not infrequent, and sometimes rise as high as 72 miles an hour."

At this time the method followed for many years was adopted. The barren dunes were first covered with brush or planted with beach grass pulled in bunches about two inches thick and transplanted in rows about 4 feet apart and 6 inches deep. The grass lives between three and four years acting as an excellent sand binder. This work was followed by the transplanting of shrubs and trees. Bayberry was soon found especially valuable for the purpose particularly along the top of the slopes of the dunes.

In the early years numerous varieties of trees were planted, willows, silver poplars, locust, black alder, white birch, hornbeam, maple, tamarisk, oaks grown from acorns and silver oaks planted in the sod, and evergreens. By 1898 as a result of these experiments the Board was convinced that the evergreen trees have a greater protective value in this area than the deciduous. At present the planting is largely limited to bayberry and Scotch broom, and to trees of native pitch pine, Scotch pine and Austrian pine.

Under conditions now existing it has been possible to abandon the planting of beach grass in favor of the preliminary covering of the dunes with brush. This method allows larger areas to be protected with less effort and affords enough protection for the natural re-seeding of the beach grass.

In 1914, at the request of the Commissioners an inspection of the lands was made by the State Forester. His report recommended the building over of the forested area to an evergreen forest for the following reasons: that evergreen is more valuable; that a clear stand of evergreen eliminates gypsy and brown-tail moths; that evergreens give a naturally uniform mulch of needles providing ideal conditions for reforesting sandy soils, and that evergreens properly planted ultimately keep down underbrush and make excellent conditions for both economic and æsthetic uses of the land. The report offered also co-operation in the elimination of the gypsy and brown-tail moth and in providing nursery stock for planting. This offer was accepted by the Board and the co-operation of the Department of Conservation has been continued since, much to the advantage of the planting upon the Province Lands.

In 1894 the Harbor and Land Commissioners began the building of a road 20 feet wide across these lands in a northwesterly direction toward Nigger Hill. Their report for 1894 explains that the "route in question was selected for the reason that this section of the lands is better protected from the shifting sand and extends farther than any other into the territory to be reclaimed." A section of this road completed in April was built largely of turf taken from the adjacent woods.

Work upon this road continued. By 1895 it had been extended through Nigger Hill, by 1896 to Grand View Hill and by 1900 to the Race Point Life Saving Station upon the outer beach. The entire length of road of about 10,200 feet, was built at a cost of \$3,450. During this period repairs and improvements were made upon other roads within the Province Lands.

By Chapter 88 of the Resolves of 1913 the Massachusetts Highway Commission was authorized to repair and surface the road across the lands at an expense not exceeding \$5,000. The entire length of road for a width of 12 feet was surfaced with sand and oil by the layer method under the provisions of the Resolve. In 1919 the Commission on Waterways and Public Lands, successor to the powers and duties of the Harbor and Land Commissioners, built at the end of the road on the bluff overlooking the ocean a parking area of 8,000 square feet.

A section of State Highway about $1\frac{1}{4}$ miles long was built in 1929 from a town road at the westerly end of Provincetown across a part of these lands to the outer shore, making an excellent bathing beach accessible for public use. This road was extended the following year across the lands to the old State Highway leading north from Provincetown, and so completed a circuit through the Province Lands.

The completion of this road has made accessible a beach of great beauty. The increasing number of visitors to this shore testifies to the appreciation of the public of the Province Lands and of this beach. To check serious erosion threatening the shore, four stone jetties were built during the year at a contract cost of \$7,839.28.

The Department has received many requests for the lease of land adjacent to

the road. It is, however, the present policy of the Board to grant no right to occupy land adjoining this beach but to rent under permits issued for a year, certain parcels upon the shore easterly of the Coast Guard Station. It is felt that the beach itself should be reserved for public use to allow the future construction of bathhouses and of such shelters as may seem necessary and desirable for public use.

Under the provisions of chapter 77 of the Acts of 1864, certain upland and flats of the Province Lands were ceded to the Federal Government for the Long Point Military Reservation. In accordance with an Act of Congress approved June 7, 1926, about 525 acres of this property were reconveyed in 1929 to the Commonwealth. The portion returned to the State is an area known as Long Beach, and consists of a sand ridge of varying width extending along the high water line, and of certain marsh lands north of the ridge. Under the provisions of section 2 of Chapter 91 of the General Laws, the Department now exercises jurisdiction over this property.

Of the area originally granted the Federal Government has retained four parcels, one upon which the Wood End Light is located, one for the Coast Guard Station, and two for the range beacons used in testing U. S. Naval submarines. Over three of these parcels, however, the National Government provides that the Commonwealth shall have a right of way, not exceeding 100 feet in width, and the privilege of maintaining thereon a public highway, in a location subject to the approval of the Federal Government.

Under the provisions of Chapter 386 of the Acts of 1930, the Department on Dec. 17, 1930, conveyed to the United States a tract of land containing about 4.77 acres westerly of the northerly end of the State Highway at Sea View, for use as a site for a Coast Guard Station.

In accordance with Chapter 300 of the acts of 1930 a marsh sod and timber dike about 3,200 feet long was built across Race Run to prevent the flooding of marshes and to aid in restricting the breeding of mosquitoes in the lands. The work was completed Feb. 20, 1931, at a contract cost of \$18,950.

At the present time the work carried on has resulted in the reclamation of about 1,200 acres of the Province Lands. Some of this work was destroyed by forest fires in 1930 so that parts of the burned area must be replanted.

During the year work has been continued in accordance with the methods described. Burnt trees have been cut over an area of about 20 acres and 44 acres have been covered with brush. In addition 1,800 bayberry plants and 1,200 pitch pines have been transplanted, and 180,000 native pines planted from seedlings.

The sum of \$201.25 has been paid into the State Treasury during the year from licenses issued for cultivating and picking cranberries on the bogs and for mowing meadows and from permits for occupying areas on these lands.

Under date of Feb. 17, 1934, the Department leased to the Town of Provincetown an area containing approximately 364.5 acres for a term of five years for use as an airport. This lease was approved by the Governor and Council on Feb. 21, 1934.

Amount expended during the year, \$4,653.60. Total expenditure to Dec. 1, 1934, \$171,288.18.

FORT DEVENS MILITARY RESERVATION

Chapter 290 of the Acts of 1933, grants to the United States of America all the right, title and interest which the Commonwealth has the power to convey in and to all great ponds, including the waters and the lands under the same, situated within the Fort Devens Military Reservation, as now located, and requires the Department to execute and deliver to the United States the necessary deed of conveyance. The deed necessary under the terms of the statute was executed by the Board under date of Sept. 19, 1934, approved by the Governor and Council on Sept. 26, and forwarded on Oct. 1, 1934, to the Chief of Staff of the First Corps Area.

STATE BOUNDARY LINES

During the year inspection was made of Massachusetts-Rhode Island State Line Bound Little Compton-Westport 3, which had been broken off and removed from its proper location. A new bound should be set at this point next year.

TOWN BOUNDARY LINE

During the year five triangulation stations were established in connection with determining location of boundary stones between the town of Reading and city of Woburn. In August one triangulation station was established to determine location of a point of the Raynham-Taunton Line, and the Eastham-Orleans corner 4 was relocated and set. In September a portion of the Saugus-Wakefield Line was determined and in October two corners of the Edgartown-Oak Bluffs Line were located and marked. In November a portion of the Granville-Russell town Line was run out and marked and two triangulation stations determined to locate a portion of the Hamilton-Wenham town Line.

CONSERVING AND EQUALIZING THE FLOW OF WATER IN RIVERS AND STREAMS

By Chapter 359, Acts of 1909, Chapter 564, Acts of 1912, and Chapter 84, Resolves of 1917, co-operation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, so that results of work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by the said Survey have been obtained for use by the Department and are available for other Departments of the Commonwealth. Toward the cost of this work the Department has paid during the year, \$4,000.

Many requests have been received in recent years at this office and at the office of the U. S. Geological Survey for data relative to the elevation of ground water throughout the Commonwealth. To provide for securing and tabulating information on this subject, the Department is asking an increase of \$1,000 in its usual appropriation for co-operative work with the Geological Survey, for use with an equal amount to be granted for the purpose from Federal funds.

RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS

By section 33, Chapter 91, General Laws, the Department is authorized to make such surveys and to do such other work as may be required by any order of the Land Court, to re-establish and permanently mark certain triangulation points and stations previously established in connection with the topographical survey of the Commonwealth, and the town boundary survey, which have been lost or destroyed and to obtain the geographical position of such new points and stations as may be required from time to time by the Court. During the year the locations of the following triangulation points were determined and permanently marked on the ground and the geographical positions furnished to the Land Court: 17 stations in Oak Bluffs; 6 stations on Sandy Neck, Barnstable.

LICENSES AND PERMITS

During the year 91 licenses were granted for work to be done in tide waters, great ponds, Connecticut River and Merrimack River and 108 permits for miscellaneous purposes. The Department also approved 62 permits granted by cities and towns for the construction and maintenance of fish weirs in tide water.

EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR,
1859-1934, INCLUSIVE

<i>Payments</i>	<i>To Nov. 30, 1933</i>	<i>1934</i>	<i>Total</i>
Boston Harbor	\$1,718,822 24 ^a	—	
Maintenance of Property		\$36,310 08	
Dredging and filling		7,311 28	\$1,762,443 60
Special appropriations		—	3,093,326 83
Commonwealth Flats, East Boston	3,093,326 83 ^a	—	4,892,123 69
Commonwealth Flats, South Boston	4,892,123 69	—	
Castle Island	743,764 91		
Dredging and filling		881 24	
Streets, Piers and Railroads		618 79	745,264 94
Commonwealth Pier No. 5, South Boston:			
Construction	4,014,790 45	—	4,014,790 45
Maintenance	724,466 47	57,485 23	781,951 70
Dredging	49,911 69	11,412 06	61,323 75
Operation and Supervision	1,735,007 56	101,841 42	1,836,848 98
Commonwealth Pier No. 1, East Boston:			
Construction	1,199,703 23	—	1,199,703 23
Operation and Supervision	126,979 26	1,007 86	127,987 12
Maintenance	21,385 12	5,982 97	27,368 09
Commonwealth Pier No. 6, South Boston:			
Construction	1,092,149 06	—	1,092,149 06
Maintenance	51,937 90	—	51,937 90
Dry Dock	3,169,651 15 ^a	—	3,169,651 15
Hayward Creek	385,979 61 ^a	—	385,979 61
Mystic River	430,403 55 ^a	31,094 68	461,498 23
Malden River	33,002 84 ^a	—	33,002 84
Chelsea Creek	60,857 03	237 32	61,094 35
Commercial Point, Dorchester Bay	53,213 10	—	53,213 10
Maintenance of Property (in addition to maintenance items listed above)	376,058 32	19,394 60	395,452 92
	<hr/>	<hr/>	<hr/>
	\$23,973,534 01	\$273,577 53	\$24,247,111 54

¹ Expenditure includes contribution by Quincy Market Cold Storage and Warehouse Corporation in 1921

\$4,000 00

By Bethlehem Ship Building Corporation in 1930

10,000 00

² Expenditure includes contribution by the City of Boston in 1926 authorized by Chapter 385, Acts of 1926

10,000 00

³ Additional amount paid by the State Treasurer from Development of the Port of Boston Loan Sinking Fund in settlement of claims

17,877 73

⁴ Expenditure includes contributions by Massachusetts Oil Refining Company and Bethlehem Ship Building Corporation

38,600 00

Additional amount paid by State Treasurer for land taking

3,725 27

⁵ Expenditure includes contribution by Merrimac Chemical Company

15,000 00

in 1920

in 1922

4,182 50

Contribution by Beacon Oil Company in 1920

50,000 00

⁶ Commonwealth's funds expended by United States Government

31,000 00

Contribution by Standard Oil Company of New York in 1922, expended by the Commonwealth

600 00

EXPENDITURES AND CONTRIBUTIONS FOR IMPROVEMENT OF SMALL HARBORS AND CHANNELS WITHIN BOSTON HARBOR, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS, FROM 1893 TO 1934, INCLUSIVE

<i>Locality and Character of Work</i>	Contributions		Expenditures	
	1934	Total Contributions	1934	Total Expenditures
Cottage Park Channel, Winthrop dredging	—	\$6,250 00	—	\$37,967 29
Dorchester, easterly shore, dredging and survey	—	1,000 00	—	210,767 61
Harbor View, dredging	—	—	—	146 00
Hingham Harbor, dredging	—	6,500 00	—	41,595 12
Houghs Neck, Quincy, dredging and survey	—	7,500 00	\$596 84	46,685 15
Island End River, Everett, survey	—	—	—	264 10
Jeffries Point Channel, dredging	—	—	—	4,563 93
Mystic River (near Lawrence and Wiggin Wharf) dredging	—	—	—	5,927 70
Neponset River, dredging	—	10,000 00	—	109,401 63
Old Harbor Cove, dredging	—	—	—	10,520 48
Orient Heights Channel, dredging	—	—	—	45,412 38
Pemberton Point, Hull, breakwater	—	60,000 00	674 03	91,195 01
Pleasant Park Yacht Club Channel, dredging	—	3,000 00	14,072 37	30,313 86
Point Allerton, Hull, seawall	—	50,000 00	—	75,127 05
Point Shirley, Winthrop	—	—	—	3,713 37
Quincy Bay, dredging	—	10,150 00	—	84,162 47
Shirley Gut, Boston and Winthrop, dredging	—	—	321 38	2,432 34
South Boston, Southerly Shore, dredging	—	—	—	129,542 08
Stony Beach, Hull, seawall and riprap	8,000 00	8,000 00	16,101 47	28,658 05
Town River, Quincy, survey and dredging	—	16,050 00	—	57,663 25
Weir River, Hull, dredging	—	45,000 00	—	205,336 48
Wessagussett Channel, dredging	—	—	—	815 20
Weymouth Fore River, dredging	—	8,250 00	—	70,084 69
Winthrop Harbor Channels, dredging	3,375 00	20,567 00	15,051 99	89,036 21
	\$11,375 00	\$252,267 00	\$46,818 08	\$1,381,331 45

EXPENDITURES AND CONTRIBUTIONS FOR RIVER AND HARBOR WORK

FROM DECEMBER 1, 1933, TO NOVEMBER 30, 1934

<i>Location and Character of Work</i>	Contributions	Expenditures
Allens Harbor, Harwich, survey	—	\$216 19
Bass River, Beverly, dredging	—	27 20
Bass River, Dennis and Yarmouth, survey and dredging	\$2,500 00	5,848 26
Brant Rock, Marshfield, seawalls and riprap	—	1,282 50
Cape Cod Canal Pier, Bourne, construction	—	4,062 05
Cape Cod Canal Pier, Bourne, operation and maintenance	—	4,545 82
Cape Poge, Edgartown, dredging	12,827 01	12,913 24

<i>Location and Character of Work</i>	<i>Contributions</i>	<i>Expenditures</i>
Connecticut River, Deerfield	—	1,227 31
Connecticut River, Greenfield	—	1,607 76
Connecticut River, Hadley	—	2,599 91
Connecticut River, Hatfield	—	256 96
Connecticut River, Northampton	—	617 37
Connecticut River, Northfield	—	5,194 61
Connecticut River, West Springfield	—	2,507 77
Cotuit Harbor, Cotuit, dredging	4,661 72	9,323 44
Dennis:		
Dennisport, stone jetty	600 00	1,430 52
Nobsusset Harbor	1,160 00	4,563 22
North Dennis	1,200 00	2,216 33
Swan Pond River	1,750 00	3,906 74
West Dennis	—	1,568 88
Duxbury Harbor, Duxbury, survey	—	195 66
Falmouth Heights, Falmouth, sea wall repairs and riprap	1,250 00	2,235 31
Great Ponds, survey	—	641 39
Green Harbor, Marshfield, survey	—	122 75
Herring River, Harwich, survey	900 00	12 40
Herring River, Wellfleet, dike	—	5,394 05
Hyannis Harbor, Barnstable, survey	—	54 68
Harwichport Beach, shore protection	—	6,704 00
Lake Anthony, Oak Bluffs, riprap	—	136 47
Lake Quinsigamond, Worcester, investigation	—	1,760 56
Lynn Harbor—Saugus River, Lynn and Saugus removal of boulders	—	350 00
Manomet Point, Plymouth, stone riprap and fill	7,250 00	6,642 46
Megansett Harbor, Falmouth, dredging	600 00	1,343 18
Merrimack River Mouth, Newburyport, survey	—	111 87
Nahant, riprap	—	27,798 76
Namequoit River and Pleasant Bay, Chatham, dredging	750 00	1,553 03
New Bedford State Pier, operation and maintenance	—	7,014 72
Nobsusset Harbor, Dennis—see Dennis		
North Dennis—see Dennis		
North River, Salem, survey	—	14 93
Oak Bluffs, sea wall and jetty repairs	6,000 00	12,003 66
Plymouth—see Manomet Point, Plymouth		
Plymouth Property, maintenance of	—	3,515 74
Province Lands, Provincetown, reclamation	—	4,653 60
Provincetown Harbor, shore protection	2,500 00	16,572 18
Rock Harbor, Orleans, timber bulkhead and plat- form	4,000 00	7,958 73
Rockport Harbor, Rockport—survey	—	41 99
Roughans Point, Revere, survey	—	250 65
Sagamore Beach, Bourne, stone jetties and riprap	5,000 00	10,512 98
Scituate Shore Protection:		
Sand Hills to Shore Acres	—	15,814 05
Shore Acres, Scituate	—	7,575 85
Glades, Scituate	—	1,413 19
Sand Hills, Scituate	1,500 00	3,671 46
Third Cliff, Scituate	—	4,614 77
Seapuit River, Barnstable	—	22 40
Singing Beach, Manchester, stone riprap	7,562 50	3,936 90
South Harwich, riprap	—	750 18
Stage Harbor, Chatham, dike	—	3,109 65
Swan Pond River, Dennis,—see Dennis		
Warrens Cove, Plymouth, riprap, jetties and sea wall repairs	—	4,171 01

<i>Location and Character of Work</i>	Contributions	Expenditures
Water Conservation	—	4,000 00
West Bay, Barnstable and Osterville, dredging	1,088 28	5,729 56
West Chop, Tisbury, riprap	4,000 00	—
West Dennis—see Dennis		
West Harwich Beach, shore protection	400 00	525 50
Winthrop Shore, Winthrop, breakwater	16,000 00	88,983 32
Witchmere Harbor, Harwich, survey	500 00	85 16
Wrecks, removal from tide water	—	1,453 62
Improvement of Rivers and Harbors, general ex- penses	—	6,872 38
	<hr/> \$71,172 50	<hr/> \$336,240 83

EXPENDITURES AND CONTRIBUTIONS FROM 1893 TO 1934, INCLUSIVE, FOR RIVER AND HARBOR WORK, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS (EXCEPTING BOSTON HARBOR).

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Acushnet River, inspection and dredging	—	\$119,810 10
Allens Harbor, Harwich, shore protection, dredging, riprap and jetties	\$18,927 50	51,362 62
Allens Pond, Dartmouth, survey	—	195 95
Angle Tree Monument, reservation	—	1,306 22
Annisquam River, Gloucester, dredging, removing ledges and riprap	13,250 00	171,498 69
Apponagansett Harbor and River, Dartmouth sur- vey, dredging and stone breakwater	—	55,786 05
Barnstable Harbor, Barnstable, dredging	7,500 00	30,693 16
Bass River, Beverly, dredging	55,535 75	81,102 76
Bass River, Dennis and Yarmouth, jetties, dredg- ing and survey	25,095 00	188,293 33
Beach Street, Scituate — see Scituate		
Beverly Harbor, Beverly, dredging	—	50,000 00 ¹
Brant Rock, Marshfield, shore protection	111,503 66	230,948 14
Brewster, Skaket Inlet, survey	—	617 19
Bucks Creek, Chatham, jetties, survey and dredg- ing	2,500 00	39,719 69
Buzzards Bay, Falmouth, survey	—	166 11
Cape Cod Canal Pier, Bourne, construction	—	262,424 72
Cape Cod Canal Pier, Bourne, operation and maintenance	—	6,681 28
Cape Poge, Edgartown, cut through beach, dredg- ing, jetties and riprap	16,500 00	55,818 33 ²
Cataumet Harbor — see Megansett Harbor		
Cedar Point, Scituate — see Scituate		
Centerville River, Barnstable, dredging	19,711 50	44,329 77
Chatham — riprap and surveys	10,500 00	19,813 19
Cohasset Harbor, Cohasset, breakwater and dredg- ing	42,691 88	116,191 93
Concord River, Billerica, removing boulders	150 00	1,664 59
Connecticut River, investigation of navigation and surveys	—	8,878 96
Connecticut River, Agawam, protective work	—	18,814 42
Connecticut River, Chicopee, survey, wall and riprap	640 00	25,789 02
Connecticut River, Deerfield, survey and riprap	—	1,227 31

¹ State funds expended under direction of U.S. Government.

² \$12,827 01 expended from U.S. Government funds (Emergency Public Works Administration)

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Connecticut River, Greenfield, survey and riprap .	—	1,607 76
Connecticut River, Hadley, diversion wall and riprap .	7,000 00	124,554 95 ^a
Connecticut River, Hatfield, dikes and riprap .	1,000 00	51,568 48
Connecticut River, Holyoke, dredging and protective work .	1,991 29	9,253 27
Connecticut River, Holyoke, marking and lighting old piers .	—	1,195 32
Connecticut River, Northampton, riprap .	—	1,524 20 ⁴
Connecticut River, Northampton, riprap .	—	617 37
Connecticut River, Northfield, riprap .	—	14,223 51
Connecticut River, South Hadley, wall .	1,000 00	7,379 58
Connecticut River, Springfield and West Springfield, protective work .	—	15,017 85 ^a
Conservation of Waters, investigation .	—	88,764 54
Cotuit Harbor, Barnstable, dredging survey and bulkhead repairs .	17,845 10	92,828 26
Cuttyhunk Harbor, Gosnold, jetties and dredging .	10,000 00	83,935 78
Deacons Pond Harbor — see Falmouth Inner Harbor		
Dennis:		
Dennisport, stone jetty	1,200 00	2,315 47
Nobscusset Harbor, breakwater	4,310 00	46,382 16
North Dennis, stone jetty	1,200 00	2,216 33
Swan Pond River, stone jetties	1,750 00	3,906 74
West Dennis, stone jetty	750 00	1,624 73
Duxbury Bay and Harbor, dredging and survey .	27,000 00	92,849 01
East Bay, Osterville, jetties, dredging and removing scows .	10,000 00	70,969 75
Edgartown Harbor, Edgartown, survey and cut in beach .	300 00	3,496 64
Ellisville Harbor, Plymouth, dredging and jetty repairs .	—	20,673 58
Essex County Beaches, survey	—	1,000 00
Essex River, Essex, dredging	—	76,304 33 ^a
Fall River Harbor, improvement	—	1,130 18
Falmouth Heights, Falmouth, sea wall and riprap .	23,460 04	72,903 02
Falmouth Inner Harbor, dredging, jetties, wall and riprap .	33,500 00	154,279 63
Falmouth, Menauhant Shore, bulkheads, jetties and riprap .	3,100 00	6,075 33
First and Second Cliffs, Scituate — see Scituate		
Fresh Water Cove, Gloucester, dredging	3,300 00	17,477 53
Gay Head, survey	—	555 42
Geological Survey Trust Fund	3,000 00	3,000 00
Glades, North Scituate — see Scituate		
Gloucester Fish Pier	—	396 91
Gloucester, Western Avenue, sea wall	35,000 00	60,000 00
Gloucester Harbor, Gloucester, dredging and removing ledges .	15,000 00	148,802 79
Great Head, Winthrop — see Winthrop Shore		
Great Ponds, survey	—	29,671 10
Green Harbor, Marshfield jetties, dredging and survey	42,500 00	167,361 13

^a from 1888 inclusive⁴ this location is now part of Holyoke^a from 1891 inclusive^a includes \$5000 expended by U.S. Government

<i>Location and Character of Work</i>	<i>Contribution by Municipality or Others</i>	<i>Total Expenditure</i>
Gun Rock Point, Hull, breakwater and sea wall repairs	16,135 41	77,939 33
Harbor Cove, Gloucester, survey and dredging	3,866 00	25,155 04
Harwichport Beach, Harwich, shore protection	4,000 00	6,901 18
Harwich Shore, near Chatham Line, stone jetty	350 00	1,206 75
Herring Creek, Scituate, survey	—	253 76
Herring River, Harwich, jetties, dredging and riprap	37,300 00	134,732 98
Herring River, Wellfleet — dikes and ditches	10,000 00	44,714 55
Hoosac River, North Adams, excavation and survey	—	21,271 67
Housatonic River, Sheffield, survey	—	2,011 29
Hull, sea wall and jetties	8,882 06	42,093 96
Humarock Beach, Scituate — see Scituate		
Hyannis Harbor, Barnstable, bulkhead and dredging	21,750 00	40,549 18
Hyannisport, Barnstable, survey and breakwater	2,500 00	65,017 76
Improvement of Rivers and Harbors, general expenses	—	62,366 59
Ipswich River, Ipswich, jetty, wall, riprap and dredging	3,800 00	60,087 07
Kings Beach, Swampscott, removal of obstruction	—	166 41
Lagoon Pond, Tisbury and Oak Bluffs, dredging and jetty	13,500 00	25,855 90
Lake Anthony, Oak Bluffs, jetties and dredging	16,000 00	98,398 21
Lake Quannapowitt, Wakefield, investigation	—	345 32
Lake Quinsigamond, Worcester, investigation	—	1,760 56
Lake Tashmoo, Tisbury, survey	—	432 88
Lewis Bay, Barnstable, survey and dredging	18,809 29	66,874 33
Little Harbor, Cohasset, survey	500 00	1,476 77
Little Harbor, Marblehead, dredging	2,500 00	11,166 16
Little River, Gloucester, survey	—	862 93
Lobster Cove, Gloucester, dredging	4,500 00	61,603 36
Long Beach, Rockport, sea wall	27,700 00	57,306 56
Lynn Harbor, Lynn, anchorage basin, survey and dredging	5,200 00	121,609 22
Lynn Harbor and Saugus River, dredging and filling	37,500 00	165,877 54
Manchester Harbor, Manchester, survey, jetties and dredging	83,000 00	189,838 88
Manomet Point, Plymouth, stone riprap and fill	7,250 00	6,642 46
Marshfield-Duxbury, survey	—	358 61
Mattapoisett Harbor, survey	—	255 48
Megansett Harbor, Bourne and Falmouth, dredging	13,330 00	53,459 84
Menamsha Inlet, Chilmark and Gay Head, jetties, dredging, sea wall and riprap	2,700 00	130,243 43
Merrimack River, investigation	—	1,208 50
Merrimack River mouth, Newburyport, survey	—	111 87
Mill River, Gloucester, survey and dredging	300 00	24,899 59
Mitchells River, Chatham, survey and dredging	6,000 00	23,113 92
Monument Beach, Bourne, survey	—	326 40
Nahant, survey and riprap	15,000 00	30,177 19
Namequoit River and Pleasant Bay, Chatham, dredging	6,250 00	31,943 68
Nantucket Harbor, dredging	5,000 00	58,982 52
Nantucket, survey of Sesachacha Pond	—	110 66
Nauset Harbor and Town Cove, Orleans, dredging	2,000 00	10,671 24
New Bedford Harbor, dredging	—	18,856 57
New Bedford State Pier, pier shed and dredging	13,446 74 [†]	558,593 16

[†] paid by Surety Company

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
New Bedford State Pier, operation and maintenance	—	80,543 01
Newburyport Harbor, survey	—	115 97
Nobscusset Harbor, Dennis — see Dennis		
North Dennis — see Dennis		
North River, Marshfield, survey and removing rocks	1,800 00	8,658 75
North River, Salem, survey	—	719 45
North Scituate — see Scituate		
Oak Bluffs, removing rocks	—	594 95
Oak Bluffs, sea walls, bulkhead and jetties	60,000 00	160,679 24
Ocean Grove, Swansea, survey	—	143 23
Onset Bay, Wareham, survey and dredging	1,000 00	15,553 00
Orleans, Survey	—	104 18
Palmers Pond, Falmouth, survey	—	358 76
Pamet River, Truro, survey, dredging and repairing jetties	1,200 00	198,010 32
Paskamansett River, Dartmouth, dredging and jetty	—	5,227 68
Penikese Island, Gosnold, pile wharf and survey	—	5,192 95
Pines River, Revere and Saugus, survey	—	904 80
Pleasant Bay, Chatham, dredging	600 00	2,364 33
Plum Island River, Newbury and Newburyport, survey	—	983 31
Plymouth Harbor, dredging and removing old piling	92,794 55 ^a	324,565 02
Plymouth Memorial Park, maintenance	—	51,572 22
Point Shirley, Winthrop — see Winthrop Shore		
Poponessett Bay, Barnstable and Mashpee, dredg- ing	—	46,252 33
Powow River, Amesbury, dredging channel and rip- rapping wall	—	502 94
Province Lands, Provincetown, reclamation	—	171,288 18
Provincetown Harbor, shore protection	2,575 00	45,302 99
Quamquisset Harbor, Falmouth, survey	—	710 31
Quanset Harbor, Orleans, survey and dredging	500 00	2,194 50
Red Brook Harbor, Bourne, removing pier	—	275 00
Revere, stone breakwater	—	60,397 93
Rock Harbor, Orleans, dredging	6,400 00	28,791 24
Rockport Harbor, Rockport, dredging and remov- ing rocks	4,750 00	32,939 45
Roughans Point, Revere	—	250 65
Sagamore Beach, Bourne, stone jetties and riprap	5,000 00	10,591 83
Salem Harbor, Salem, survey	—	1,509 92
Salisbury Beach, survey	—	4,754 27
Salt Pond River, Eastham, survey	—	210 11
Salters Point, Dartmouth, breakwater	4,500 00	42,939 57
Sand Hills, Scituate — see Scituate		
Sandwich Harbor, Sandwich, dredging channel, rip- rap and jetties	—	80,579 84
Saugus River, Lynn and Saugus, survey and dredg- ing	2,000 00	20,845 17
Scituate shore protection:	75,000 00	
Beach Street, Scituate, wall and breakwater	17,333 52	34,782 50
Cedar Point, Scituate, wall and breakwater	21,446 64	41,298 70
First and Second Cliffs, Scituate, wall and riprap	2,797 92	19,553 12
Glades, North Scituate, filling and riprap	13,250 78	40,164 61

^a \$57,000 expended under direction of U.S. Government

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Humarock Beach, Scituate, survey, wall and jetties	37,816 38	83,583 74
North Scituate, Surfside, sea wall, jetties and riprap	2,194 68	33,144 84
Sand Hills, Scituate, wall and jetties	6,011 26	37,702 59
Third Cliff, Scituate, riprap and survey	75,193 10	139,384 98
General surveys at Scituate	—	543 73
Shore Acres, Scituate, riprap	—	20,488 98
Sand Hills to Shore Acres, sea wall, jetties and riprap	—	33,440 52
Scituate Harbor, dredging and surveys	53,300 00	206,011 94
Scorton Harbor, Sandwich, jetty and dredging	500 00	17,774 34
Seapuit River, Barnstable, dredging	13,000 00	25,110 95
Sengekontacket Pond, Oak Bluffs, survey	—	104 28
Sesuit Harbor, Dennis, jetty	1,500 00	24,555 10
Shirley Gut, Winthrop, survey	—	201 06
Singing Beach, Manchester, survey	7,562 50	4,018 70
Sippican Harbor, Marion, survey	—	615 66
Smiths Cove, Gloucester, survey and dredging	3,875 00	13,466 16
South Harwich, stone jetties and riprap	2,500 00	4,451 49
South River, Marshfield and Scituate, survey	—	724 85
South River, Salem, dredging	3,000 00	13,462 66
South Watuppa Pond, Fall River, fenders and excavation	—	203 42
Stage Harbor, Chatham, dikes and survey	—	14,901 80
Stream Gauging — see Conservation of Waters		
Swampscott, survey	—	103 46
Swan Pond River, Dennis — see Dennis		
Taunton-Brockton, waterway investigation	—	5,278 18
Taunton River, survey and dredging	42,500 00	31,561 95
Taunton River-Boston Harbor Canal, survey	—	9,932 75
Taunton River-Massachusetts Bay Canal, survey	—	11,786 71
Truro Beach, survey	—	71 74
Vineyard Haven Harbor, Tisbury, breakwater and dredging	1,000 00	45,518 25
Vineyard Haven Harbor, repairing sea wall	2,380 50	11,945 01
Waquoit Bay, Falmouth, breakwater, wall, bulkhead and dredging	17,500 00	98,438 91
Wareham River, Wareham, survey and dredging	5,000 00	42,567 93
Warrens Cove, Plymouth, sea wall and survey	15,213 98	38,412 87
Watch Hill, Chatham, survey and riprap	—	14,968 75
Water Conservation — see Conservation of Waters		
Wellfleet Harbor, Wellfleet, survey and dredging	1,500 00	17,600 29
West Bay, Barnstable and Osterville, dredging, jetties and riprap	17,216 35	120,337 08
West Chop, Tisbury, stone jetties	6,500 00	5,116 07
West Dennis Beach — see Dennis		
West Falmouth Harbor, Falmouth, surveys, dredging and breakwater	11,473 75	63,520 95
West Harwich Beach, Harwich, shore protection	6,400 00	27,242 50
Western Avenue sea wall, Gloucester — see under Gloucester		
Westfield River, Westfield, survey and jetties	—	6,037 29
Westport Harbor, Westport, jetty extension and repairs	—	21,928 88
Wild Harbor, Falmouth, jetty and dredging	15,000 00	55,128 66
Winthrop Shore, Winthrop, sea walls and protective work	81,500 00	297,844 85

<i>Location and Character of Work</i>	Contributed by Municipality or Others	Total Expenditure
Witchmere Harbor, Harwich, jetties and dredging	6,500 00	70,027 91
Woods Hole, Great Harbor, Falmouth, dredging	1,500 00	6,968 86
Wrecks, removal from tide water	—	21,737 31
Yarmouthport Harbor, survey	7,000 00	95,977 37
	<hr/>	<hr/>
	\$1,715,367 13	\$8,733,200 09

FEDERAL APPROPRIATIONS AND EXPENDITURES

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the close of the fiscal year ending June 30, 1934, are shown in the following tables furnished by the Chief of Engineers, U. S. Army:—

TABLE NO. 1.—*Localities at Present Under Improvement*

(Compiled from the Annual Report of the Chief of Engineers, U. S. Army, for the fiscal year ending June 30, 1934.)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Gloucester Harbor	\$552,439 65	\$552,439 65
Lynn Harbor	791,179 29	806,540 94
Boston Harbor	14,232,566 01	14,547,660 08
Plymouth Harbor	470,651 35	477,035 65***
Cape Cod Canal	13,608,299 62	17,678,698 73
Operating and Care, Cape Cod Canal	1,441,164 43	1,465,946 01
Pollock Rip Shoals	1,413,336 98	1,467,029 26
Cross Rip Shoals, Nantucket Sound	41,489 64	47,489 64
New Bedford and Fairhaven Harbor	1,337,203 34	1,337,203 34
Fall River Harbor	790,087 33	790,087 33
Taunton River	383,785 47	383,785 47
	<hr/>	<hr/>
Total	\$35,062,203 11	\$39,553,916 10

*** Exclusive of \$108,400 contributed funds.

TABLE NO. 2.—*Localities in Which Work is Not Now in Progress*

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Newburyport Harbor	\$506,708 13	\$506,708 13
Merrimack River	404,466 72	404,466 72
Malden River	149,950 00	149,950 00****
Sandy Bay, Cape Ann, Harbor of Refuge	1,941,478 00	1,941,478 00
Bass River	20,150 34	20,150 41
Buzzards Bay Harbor	2,500 00	2,500 00
Canapitset Channel	5,312 54	9,800 00
Chatham Harbor	12,171 36	13,732 79
Cohasset Harbor	10,000 00	10,000 00
Duxbury Harbor	37,000 00	37,000 00
East Dennis Breakwater	7 57	1,500 00
Edgartown Harbor	25,000 00	25,000 00
Essex River	30,000 00	30,000 00
Hingham Harbor	38,316 58	38,316 58
Hyannis Harbor	221,267 07	221,267 07
Ipswich River	5,617 91	5,617 91
Kingston Harbor	8,940 09	10,000 00
Little Harbor, Woods Hole	18,000 00	18,000 00
Manchester Harbor	23,985 57	23,985 57
Marblehead Harbor	833 42	1,900 00
Martha's Vineyard (Edgartown Harbor)	30,000 00	30,000 00
Powow River	50,940 72	51,000 00

**** Exclusive of \$ 62,000 contributed funds.

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Rockport Harbor	91,229 25	91,229 25
Town River	37,577 41	37,577 41
Vineyard Haven Harbor	55,387 35	55,387 35
Wareham Harbor	95,997 30	96,236 00
Wellfleet Harbor	11,365 57	16,000 00
Westport Harbor and River	3,000 00	3,000 00
Winthrop Harbor	9,000 00	9,000 00
Woods Hole Channel	343,599 92	344,000 00
Beverly Harbor	246,690 41	246,690 41*
Salem Harbor	107,956 57	107,956 57
Mystic River	306,684 84	306,684 84
Dorchester Bay and Neponset River	128,176 44	128,176 44
Weymouth Fore River	641,150 00	641,150 00**
Weymouth Back River	27,000 00	27,000 00
Scituate Harbor	126,590 98	126,590 98
Provincetown Harbor	348,062 72	348,062 72
Harbor of Refuge at Nantucket	694,582 83	694,582 83
Total	\$6,816,697 61	\$6,831,697 98

* Exclusive of \$100,000 contributed funds.

** Exclusive of \$100,000 contributed funds.

RECAPITULATION

	<i>Expenditures</i>	<i>Appropriations</i>
Total of Table No. 1	\$35,062,203 11	\$39,553,916 10
Total of Table No. 2	6,816,697 61	6,831,697 98
Total	\$41,878,900 61	\$46,385,614 08

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
358	Commonwealth Pier 5, Boston, repairs to pile platform.	A. A. Hersey & Son Co.	June 6, 1933
362	Cape Cod Canal Pier, — building . . .	Durso Construction Co.	June 6, 1933
364	Commonwealth Pier 5, Boston—dredging east berth	Bay State Dredging & Contracting Company	Sept. 26, 1933
367	Chelsea Creek, East Boston—removal of hulks .	John Forward . . .	Aug. 1, 1933
376	Shore Acres, Scituate—sea wall of concrete, jetties and riprap.	Thomas H. Hannaford .	Sept. 12, 1933
377	Third Cliff, Scituate—stone riprap . . .	Raymond A. Bergeasson .	Sept. 5, 1933
378	Scituate, Shore Acres—concrete sea wall and stone riprap.	A. K. Finney . . .	Sept. 5, 1933
380	Nobscusset Harbor, Dennis—stone jetties westerly of harbor.	Sidney W. Lawrence .	Sept. 19, 1933
381	Pleasant Park Channel, Winthrop—dredging .	Bay State Dredging & Contracting Co.	Nov. 28, 1933
382	Boston Harbor—dredging adjacent to Pier 1, of New York, New Haven and Hartford Railroad Co.	Bay State Dredging & Contracting Co.	Sept. 26, 1933
383	Nahant Shore, Nahant—riprap protection . .	M. McDonough Co. .	Oct. 10, 1933
384	Commonwealth Pier 5—painting exterior steel .	Louis P. Steensen .	Sept. 20, 1933
385	Mystic River—dredging above Malden Bridge .	Bay State Dredging & Contracting Co.	Oct. 10, 1933
386	West Dennis Beach—stone jetty . . .	Sidney W. Lawrence .	Nov. 28, 1933
387	Commonwealth Pier 5—Installation of steel sash, replacement of glass, and repairs to sash . .	Maurice M. Devine, Inc.	Nov. 23, 1933
388	Harwich Shore Protection	Louis A. Byrne . . .	Dec. 6, 1933
389	Stony Beach, Hull—riprap protection . . .	Bradford Weston . . .	Feb. 13, 1934
390	Commonwealth Pier 1, East Boston—steel, sliding, cargo doors	Waghorne-Brown Com- pany.	Nov. 28, 1933
392	Commonwealth Pier 1, East Boston—repairs to platforms and sheds .	Murray Engineering Company.	Nov. 28, 1933
393	New Bedford State Pier—repairs to plaster walls and doorways, and new windows and doors.	National Gunitite Con- tracting Co.	Nov. 28, 1933
394	Cape Cod Canal Pier Building—piping and radiation.	Hibbett Plumbing Co., Inc.	Dec. 13, 1933

AND IN FORCE DURING THE YEAR ENDING NOVEMBER 30, 1934

Condition of Work	Contract Price	Amount paid during year ending Nov. 30, 1934	Total paid to Nov. 30, 1934
Completed Dec. 18, 1933	Unit prices.	\$744 65	\$3,779 05
Completed Dec. 20, 1933	For the construction of building complete, including foundations, floors, outside platforms, plumbing, drains, cistern with allowances as specified, and all incidental work, the lump sum of \$21,378.	3,663 43	22,200 42
	For the substitution of 4-inch tile backing in side walls in place of 8-inch tile, as specified deduct \$378.		
	For omission of all plumbing fixtures, water pump and tank and all plumbing above floor level, deduct \$700.		
Completed Feb. 19, 1934	For omission of floor specified in main shed, deduct \$1,000.	10,934 81	14,418 76
	For dredging and disposing of dredged material 43 cents per cubic yard, scow measurement.		
Completed April 30, 1934	For removing and disposing of boulders \$20 per cubic yard.	935 00	3,400 00
	For removal and disposal of all hulks, wrecks, etc., as specified, except steel hulk "Yankton" \$2,900.		
Completed June 1, 1934	For furnishing material and constructing concrete sea wall and jetties, \$7.79 for each cubic yard of concrete measured in completed work.	14,738 43	31,371 78
	For furnishing and placing heavy stone riprap for apron \$2.243 for each ton in completed work.		
Completed Dec. 8, 1933	For each ton of riprap or stone chips furnished and placed in the completed work, \$1.90.	4,530 65	10,990 65
Completed March 10, 1934	For furnishing material and constructing the concrete sea wall, including all excavation, backfilling forms and removing old bulkhead, including all incidental work the sum of \$7.82 for each cubic yard of concrete measured in the completed work.	5,922 03	13,991 49
	For furnishing and placing heavy stone riprap for apron including excavation, backfilling, chinking, including all incidental work, the sum of \$1.92 for each ton of heavy stone riprap in the completed work.		
Completed Dec. 8, 1933	For each ton of stone riprap furnished in place in the completed work, \$3.10.	2,081 71	2,081 71
Completed May 4, 1934	For dredging and disposing of dredged material 38 cents per cubic yard, scow measurement.	12,389 58	12,389 58
	For removing and disposing of boulders \$20 per cubic yard.		
Completed Jan. 9, 1934	For dredging and disposing of dredged material 37 cents per cubic yard, scow measurement.	5,704 09	27,166 51
	For removing and disposing of boulders, \$20 per cubic yard.		
Completed Feb. 14, 1934	For each ton of stone riprap furnished in place in the completed work, \$1.18.	26,918 57	28,914 54
Completed Jan. 17, 1934	For furnishing all labor, paint, materials and equipment and doing all cleaning and painting, the lump sum of \$1,720.	3,447 49	3,447 49
Completed Jan. 9, 1934	For dredging area and disposing of dredged material, 41 cents scow measurement.	12,714 10	12,714 10
Completed Jan. 13, 1934	For removing and disposing of boulders, \$20 per cubic yard.		
Completed April 9, 1934	For furnishing and placing stone riprap and granite chips in the jetty \$3.10 per ton.	1,395 00	1,395 00
	Unit prices.	9,173 80	9,173 80
Completed March 8, 1934	For furnishing and placing stone riprap and granite chips in the completed work, the sum of \$2.74 for each ton of 2,000 pounds.	7,327 86	7,327 86
Completed Aug. 18, 1934	For each ton of stone riprap furnished and placed in completed work, \$1.	14,895 62	14,895 62
	For rehandling existing riprap, \$200.		
Completed March 16, 1934	For each steel sliding door furnished and erected, including all incidental work, \$143.37.	2,293 92	2,293 92
Completed April 7, 1934	Unit prices.	2,134 54	2,134 54
Completed March 14, 1934	For removing existing plaster wall on north side of pier and replacing with gunite, the lump sum of \$1,460.	2,663 13	2,663 13
	For placing new gunite surface on exposed face of elevator shaft, and on inner and outer corners of steel shed, the lump sum of \$615.		
	For furnishing and erecting two steel sash, the lump sum of \$50.		
	For furnishing and erecting 3 doors, complete and ready to operate, the sum of \$500.		
Completed Feb. 19, 1934	For furnishing and installing complete and ready to operate the heating system specified including the furnishing of all labor and materials and all incidental work, \$573.	573 00	573 00

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
395	Edgartown, Cape Poge Bay—dredging and repairs to riprap and jetties. (N. I. R. A. Project)	Bay State Dredging & Contracting Co.	June 26, 1934
396	Winthrop Harbor—dredging.	Bay State Dredging & Contracting Co.	May 9, 1934
397	Cotuit Harbor and West Bay, Barnstable, and Bass River, Yarmouth—dredging channels.	Bay State Dredging & Contracting Company.	May 15, 1934
398	West Bay, Barnstable—repairs to west jetty . .	Bay State Dredging & Contracting Company.	May 15, 1934
399	Sagamore Beach, Bourne—stone jetties and riprap.	Thomas Whalen & Sons, Inc.	May 22, 1934
400	Round Cove, Harwich—dredging channel from Pleasant Bay.	Arthur K. Finney . .	June 13, 1934
401	Oak Bluffs—sea wall at Bathing Beach . . .	Frank A. Days & Sons .	May 31, 1934
402	Commonwealth Pier 5—electric brakes and repair work on Elevator No. 3.	George T. McLauthlin Co.	May 31, 1934
403	Boston Inner Harbor—dredging three areas . .	Bay State Dredging & Contracting Company	June 13, 1934
404	Falmouth Heights—repairs to sea wall at Terrace Gables.	Frederick V. Lawrence .	June 13, 1934
405	Nobscusset Harbor—repairs to riprap and excavation.	Frederick V. Lawrence .	June 12, 1934
406	Provincetown—stone jetties at Bathing Beach .	Arthur K. Finney . .	June 13, 1934
407	Provincetown—repairs to riprap along shore in front of State Highway	Joseph W. Nickerson .	June 13, 1934
408	Swan Pond River, Dennis—stone jetties . . .	Frederick V. Lawrence .	June 26, 1934
409	Rock Harbor, Orleans—timber bulkhead and platform.	Frank A. Days & Sons .	June 26, 1934
410	Dennisport—stone jetty	Frederick V. Lawrence .	June 26, 1934
411	West Chop, Tisbury—shore protection . . .	Merritt-Chapman and Scott Corporation.	Aug. 28, 1934
412	Taunton Ave., Dennis—stone jetties	Thomas Whalen & Sons, Inc.	July 17, 1934
413	Winthrop Breakwater Extension	William R. Farrell . .	Aug. 1, 1934
415	Commonwealth Pier 5—roof ventilators in passenger shed.	Columbia Cornice Company.	Sept. 4, 1934

AND IN FORCE DURING THE YEAR ENDING NOVEMBER 30, 1934

Condition of Work	Contract Price	Amount paid during year ending Nov. 30, 1934	Total paid to Nov. 30, 1934
Completed Nov. 5, 1934	For dredging and disposing of dredged material 51 cents per cubic yard, scow measurement. For removing and disposing of boulders \$20 per cubic yard. For each ton of heavy stone riprap furnished in place in the completed work, \$4.07. For each ton of stone chips furnished in place in the completed work, \$4.07.	\$11,932 88	\$11,932 88
Completed June 15, 1934	For dredging and disposing of dredged material 42.5 cents per cubic yard, scow measurement. For removing and disposing of all boulders, \$20 per cubic yard.	14,017 35	14,017 35
Completed Aug. 27, 1934	For dredging and disposing of the dredged material 49.5 cents per cubic yard, scow measurement. For removing and disposing of all boulders, \$20 per cubic yard.	15,360 35	15,360 35
Completed Sept. 25, 1934	For each ton of stone riprap or stone chips furnished and placed in the completed work the sum of \$5.34 for each ton of 2,000 pounds.	3,233 69	3,233 69
Completed Aug. 3, 1934	For each ton of 2,000 pounds of stone riprap or chips furnished in place in the completed work, \$2.47.	9,686 34	9,686 34
Completed July 19, 1934	For dredging and disposing of dredged material, 27 cents per cubic yard. For removing and disposing of all boulders, \$10 per cubic yard.	933 39	933 39
Completed July 24, 1934	For furnishing material and building concrete sea wall, \$16.45 for each cubic yard of concrete measured in place in the completed work.	8,994 70	8,994 70
Completed Aug. 15, 1934	For furnishing all labor, materials, tools and equipment and performing all work for the installation of new electric brakes on elevator No. 3, the lump sum of \$875.	875 00	875 00
Completed Aug. 20, 1934	For dredging shoal area in approach channel to Commonwealth Pier 5, and disposing of dredged material, \$1.10 per cubic yard, scow measurement. For dredging area adjacent to Northern Avenue Bridge, and disposing of dredged material, 43 cents per cubic yard, scow measurement. For dredging area adjacent to Central and India Wharves and disposing of the dredged material, 45 cents per cubic yard, scow measurement. For removing and disposing of boulders \$20 for each cubic yard.	25,848 28	25,848 28
Completed Oct. 11, 1934	For each ton of stone riprap furnished in place in the completed work, \$3.15. For furnishing material and constructing concrete repairs, \$30 for each cubic yard of concrete measured in place in completed work. For each cubic yard of material for backfill furnished, delivered and measured in place in completed work, 75 cents per cubic yard.	1,842 90	1,842 90
Completed Aug. 24, 1934	For each ton of stone riprap furnished in place in completed work, \$2.60. For excavating and disposing of excavated material 25 cents for each cubic yard measured in place and deposited in the disposal area.	1,724 00	1,724 00
Completed Sept. 25, 1934	For each ton of stone riprap or chips furnished in place in the completed work, \$3.07.	-	-
Completed Aug. 15, 1934	For each ton of stone chips furnished in place in the completed work \$2.75. For rehandling about 200 tons of heavy stone riprap and replacing it within the limits of the existing riprap, the lump sum of \$49.	2,929 93	2,929 93
Completed Sept. 7, 1934	For furnishing and placing granite stone riprap and granite chips in the jetties, \$2.53 for each ton of 2,000 lbs. in the completed work.	3,239 67	3,239 67
Completed Nov. 2, 1934	For furnishing all materials and constructing creosoted timber bulkhead and platform, \$28.92 for each linear foot of completed bulkhead and platform.	6,489 65	6,489 65
Completed Sept. 18, 1934	For furnishing and placing stone riprap and granite chips in the jetty \$2.90 for each ton of 2,000 lbs.	1,057 54	1,057 54
In progress	For each ton of stone riprap or chips furnished in place in the completed work, \$4.86.	-	-
Completed Sept. 8, 1934	For furnishing and placing granite stone riprap and granite chips in the jetties \$2.42 for each ton of 2,000 lbs.	1,753 05	1,753 05
In progress	For each ton of stone riprap furnished in place in the completed work, \$1.97.	49,623 76	49,623 76
Completed Oct. 4, 1934	For each ventilator 16 inches in diameter furnished and installed \$27. For each ventilator 12 inches in diameter furnished and installed \$25.	926 00	926 00

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
416	Manomet Point, Plymouth protective work . . .	M. J. Crowley . . .	Aug. 21, 1934
417	Singing Beach, Manchester—protective work . . .	Thomas A. Mackey . . .	Aug. 28, 1934
418	Hough's Neck, Quincy—shore protection . . .	City of Quincy . . .	Aug. 14, 1934
419	Mystic River—dredging above and below Malden Bridge.	J. S. Packard Dredging Co.	Sept. 11, 1934
420	Removal of wrecks and débris from Jeffries Point, East Boston, and Savin Hill Bay, Dorchester.	George M. Bryne . . .	Sept. 18, 1934
421	Repairs to pile and timber work at Commonwealth Piers No. 1 and No. 5, at Boston.	W. H. Ellis & Son Company	Oct. 30, 1934
422	Commonwealth Piers No. 1 and No. 5, and E Street Storehouse—roof repairs.	Atlantic Roofing & Skylight Works.	Nov. 7, 1934
423	Commonwealth Pier 5—installation of new sash and replacement of broken glass.	Maurice M. Devine, Inc.	Nov. 13, 1934
424	Pier 1, East Boston—steel sliding doors . . .	Roy Wason . . .	Nov. 13, 1934
425	Castle Island Bulkhead, South Boston . . .	John P. Cavanagh . . .	Nov. 27, 1934
426	Commonwealth Pier 5—painting doors and sash in Headhouse.	John S. Leonard . . .	Nov. 13, 1934
427	Commonwealth Pier 1, East Boston—movable gangway.	Waghorne-Brown Company.	Nov. 20, 1934

AND IN FORCE DURING THE YEAR ENDING NOVEMBER 30, 1934

Condition of Work	Contract Price	Amount paid during year ending Nov. 30, 1934	Total paid to Nov. 30, 1934
In progress	For stone riprap furnished in place in the completed work, \$1.75 per ton.	\$5,334 18	\$5,334 18
In progress	For furnishing material and filling back of riprap, 30 cents per cubic yard measured in place in the completed work.		
In progress	For each ton of riprap furnished and placed in the completed work, \$1.85.	3,076 06	3,076 06
In progress	For each cubic yard of gravel or crushed stone furnished and placed in the completed work 90 cents.		
In progress	For each square yard of bank graded including the furnishing of material and incidental work 20 cents.		
In progress	Commonwealth to pay to city one-half of cost of all labor other than that furnished by Federal Government, one-half actual cost of materials and tools furnished, and one-half actual prices paid for rental of machinery and equipment employed in performance of work, provided the total amount to be paid by the State to the city does not exceed \$10,000, — as authorized by Ch. 322 of Acts of 1934 and by Item 60A of Chapter 384 of the Acts of 1934.	—	—
In progress	For dredging and disposing of dredged material 34.5 cents per cubic yard, scow measurement.	16,312 02	16,312 02
Completed Oct. 10, 1934	For removing and disposing of all boulders \$20 per cubic yard.		
	For removing and disposing of wrecks and débris from property of George B. Fitzpatrick at Jeffries Point, East Boston, the lump sum of \$350.	1,398 25	1,398 25
	For removing and disposing of wrecks and débris from property of city of Boston at Savin Hill Bay, Dorchester, the lump sum of \$1,295.		
In progress	Unit prices.	—	—
In progress	Unit prices.	—	—
In progress	For each light of glass furnished and set to replace broken glass, 70 cents.	—	—
In progress	For each new sash approximately 18 ft. 4 $\frac{1}{8}$ in. by 9 ft. 7 $\frac{3}{4}$ in. furnished and set, \$112.	—	—
In progress	For each new sash approximately 18 ft. 4 $\frac{1}{8}$ in. by 8 ft. 3 $\frac{3}{8}$ in. furnished and set, \$90.	—	—
In progress	For each steel sliding door furnished and erected, \$146.	—	—
In progress	For removing about 980 linear feet of bulkhead and disposing of all material, except that used in repair work, \$2.75 for each linear foot of bulkhead removed.	—	—
In progress	For repairing bulkhead by splicing and patching, \$40 for each M Ft. B M of lumber placed in the work.		
In progress	For repairing bulkhead by driving sheeting \$60 for each M Ft. B M of lumber placed in the work.		
In progress	For refitting and securing piles \$5 for each pile refitted and secured.		
In progress	For furnishing all ship spikes, bolts and washers, 15 cents for each pound used in the work.		
In progress	For furnishing all material, labor and equipment and painting doors, and windows in Headhouse, the lump sum of \$285.		
In progress	For furnishing and erecting in place in complete working order the movable gangway, the lump sum of \$1,844.	—	—

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The Commonwealth of Massachusetts

SIXTEENTH ANNUAL REPORT

OF THE

DEPARTMENT OF PUBLIC WORKS

YEAR ENDING NOVEMBER 30, 1935

*To the Honorable Senate and House of Representatives of the
Commonwealth of Massachusetts:*

In accordance with the provisions of law, I have the honor, as Commissioner of Public Works, to submit the sixteenth annual report of the Department of Public Works for the year ending November 30, 1935.

The organization of the Department, as defined in Chapter 16, General Laws, as amended by chapter 297, Acts of 1927, was as follows:

Commissioner of Public Works, FRANK E. LYMAN¹ and WILLIAM F. CALLAHAN.²

Associate Commissioner, RICHARD K. HALE.

Associate Commissioner, WILLIAM F. CALLAHAN² and FRANK E. LYMAN.¹

Office Building. The new office building for this Department is intended to accommodate the various offices of the Department which are located in Boston. Any space not immediately needed for its activities is to be assigned for other State departments at reasonable rental figures. This building was authorized by Chapter 122, Acts of 1931, with additional appropriations for completion, namely, —Chapter 21, Acts of 1932 and Item 578b, Chapter 371, Acts of 1933.

The mileage of new State highways laid out during the year amounted to 25.16 miles, but there were abandoned or discontinued 2.04 miles of State highways, so that the net mileage of State highways amounted to 1,875.58 miles at the end of the year.

The Department has constructed, reconstructed and widened 63.63 miles of State highways and built 163.81 miles of roads in co-operation with cities, towns and counties under the provisions of chapter 90, General Laws.

Under the provisions of section 26, chapter 81, General Laws, the Department has had charge of the repair and maintenance of 8,858 miles of public ways, exclusive of State highways in 175 towns.

New Projects, State Highways. Reconstruction of about seven miles of State highway in Dracut, Lowell and Methuen.

Construction of steel bridge over the Boston-Revere Beach and Lynn Railroad, in Revere.

Construction of concrete bridge over Mother Brook, Dedham, on the Providence Turnpike Extension, a mile of highway on new location for the Providence Turnpike in Dedham, and three quarters of a mile of State highway on the same route in Boston.

Reconstruction of seven miles of State highway in Southwick.

Reconstruction of about five miles of State highway in Montague, partly on new location.

Authorized by Special Acts. A highway grade separation of considerable importance was begun at the intersection of Huntington Avenue and the Fenway, the latter being carried over Huntington Avenue.

Bond Issue. The Legislature by an Act, Chapter 464, of the current year, provided for a Public Works Program for the purpose of alleviating existing conditions resulting from unemployment. This Act authorized several classes of public works projects to be carried out by the Department of Public Works or under its direct supervision, at a total cost amounting to \$13,000,000. The State Treasurer is authorized by the Act, generally referred to as the Bond Issue Legislation, to borrow on the credit of the Commonwealth such sums as may be necessary, but not in excess of the amount above stated. A copy of this Act is submitted below. The amount set aside for highway projects is \$12,000,000, and the balance,

¹ Term as Commissioner of Public Works terminated and appointed Associate Commissioner on Dec. 20, 1934.

² Term as Associate Commissioner terminated and appointed Commissioner of Public Works on Dec. 29, 1934.

\$1,000,000, is for waterways projects. Federal co-operation is authorized under this Act.

The selection of projects to be carried out has been made with a view to undertaking the most urgent improvements. The allotment of \$4,000,000 for construction of sidewalks along State highways and any amounts used as the Commonwealth's share for the abolition of grade crossings, will be justified by the greater safety to human life as provided by such projects.

The grant of \$2,300,000 distributed for projects to be carried out directly by the cities and towns of the Commonwealth, has afforded the means of the employment of local labor.

This Act authorized the Department to enter into agreements with the Federal Government for the execution of projects to be carried out with both State funds and Federal funds.

The Federal Emergency Relief Appropriation Act of 1935 (Public Resolution No. 11, 74th Congress) provided for the construction of highways, roads and streets in accordance with the provisions of the Federal Highway Act. Under this legislation the Secretary of Agriculture promulgated certain rules and regulations approved by the President on July 12, 1935, for carrying out the provisions of this Act.

The Department of Public Works entered into an agreement with the Secretary of Agriculture on August 27, 1935, for carrying out highway projects with Federal funds, designated as "Works Program Highway Funds," amounting to \$3,262,885. Also, an amount of \$4,210,833 was provided for the elimination of grade crossings, designated as Works Program Grade Crossing elimination projects; both of these types of projects to be carried out with the co-operation of the Bureau of Public Roads.

The agreements provided that in the execution of work financed by such Federal funds, certain classes of labor shall be obtained through the National Reemployment Service, preference being given to the employment of labor obtained from relief rolls.

The Federal Aid highway construction was authorized by the Hayden-Cartwright Act of 1934, and the allotment to Massachusetts for 1935 was \$1,741,877, and the State appropriated an equal amount to match this Federal grant.

The engineering and clerical staff of the Department was as follows:

Chief Engineer, ARTHUR W. DEAN.¹

Acting Chief Engineer, GEORGE H. DELANO.²

Highway Engineer, (Projects), FRANKLIN C. PILLSBURY.

Highway Engineer, (Construction), RAYMOND W. COBURN.

Highway Engineer, (Maintenance), GEORGE H. DELANO.

Bridge Engineer, GEORGE E. HARKNESS.

District Highway Engineers:—

District No. 1, GEORGE A. CURTIS—Berkshire County and the towns of Worthington, Middlefield and Huntington in Hampshire County, and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2, H. D. PHILLIPS—Franklin, Hampshire and Hampden Counties, with the following exceptions: three towns in Hampshire County included in District No. 1 and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON—Worcester County and the towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN—Middlesex County.

District No. 5, JAMES E. LAWRENCE—Essex and Suffolk Counties.

District No. 6, H. O. PARKER, Norfolk and Bristol Counties.

District No. 7, H. C. HOLDEN—Plymouth, Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer, for Boston Harbor—JOHN N. FERGUSON.

District Waterways Engineer, for harbors and waterways outside Boston Harbor—FRANCIS L. SELLEW.

¹ Resigned Oct. 4, 1935.

² Appointed Acting Chief Engineer Oct. 5, 1935.

Secretary, MARY A. RILEY.

Financial Secretary, FRED FAIR.

Registry of Motor Vehicles

Registrar, MORGAN T. RYAN¹ and FRANK A. GOODWIN.²

Deputy Registrar, ANTHONY A. BONZAGNI.

Assistant to the Registrar of Motor Vehicles, ALFRED W. DEVINE.

Chief Administrative Clerk, CHARLES R. GILLEY.

Chief Inspector of Motor Vehicles, ALBERT S. OLSSON.

A detailed report of the activities of the Department for the year is presented herewith.

WILLIAM F. CALLAHAN,
Commissioner of Public Works.

December 1, 1935.

SPECIAL REPORTS TO THE LEGISLATURE

The Department was authorized and directed by the Legislature to make certain investigations, and the reports thereon were made as follows:

State highway between the cities of Lowell and Boston, Report made Nov. 28, 1934, by the Department of Public Works, under Chapter 17, Resolves of 1934. (Sen. 90 of 1935.)

Advisability of widening and deepening Shirley Gut in Boston Harbor. Report made Nov. 28, 1934, by the Department of Public Works, under Chapter 19, Resolves of 1934. (H. 220 of 1935.)

A public highway on Plum Island, Report made Nov. 28, 1934, by the Department of Public Works under Chapter 21, Resolves of 1934. (Sen. 2 of 1935.)

The advisability of constructing certain traffic improvements in Boston, Cambridge and Everett. Report made Nov. 28, 1934, by the Department of Public Works, under Chapter 31, Resolves of 1934. (H. 221 of 1935.)

The improvement of the sanitary condition of Lake Quinsigamond and the watershed of said Lake. Joint report made Nov. 30, 1934, by the Department of Public Health and the Department of Public Works, as a Joint Board, under Chapter 32, Resolves of 1934. (Sen. 10 of 1935.)

Extending the existing State highway across Chelsea Creek between Boston and Chelsea. Report made Dec. 5, 1934, by the Department of Public Works, under Chapter 33, Resolves of 1934. (Sen. 165 of 1935.)

The advisability of licensing contractors and builders and relative to certain matters relating to contracts for and the employment of persons on public works. Report made Dec. 5, 1934, by special commission, established by Chapter 33, Resolves of 1934, and continued under authority of Chapter 34, Resolves of 1934. (H. 217 of 1935.)

Certain proposed traffic routes in the Metropolitan District. Report made Dec. 5, 1934, by the Department of Public Works, under Chapter 45, Resolves of 1934. (H. 223 of 1935.)

The protection of property along the waterfront in the Beachmont Section of the City of Revere. Joint report made Dec. 5, 1934, by the Department of Public Works and the Metropolitan District Commission, acting as a Joint Board, under Chapter 47, Resolves of 1934. (H. 299 of 1935.)

The desirability of establishing a free port in the Port of Boston and a study of the provisions of certain Federal legislation relative to foreign trade zones in ports of entry of the United States, and certain other related matters. Joint report made February, 1935, by the Boston Port Authority and the State Commissioner of Public Works, acting jointly, under Chapter 48, Resolves of 1934. (H. 1950 of 1935.)

The sewage problem in the South Essex Sewerage District. Joint Report made Nov. 28, 1934, by the Department of Public Health and the Department of Public Works, acting as a Joint Board, under Chapter 49, Resolves of 1934. (H. 1250 of 1935.)

¹Resigned Feb. 6, 1935.

²Appointed Registrar of Motor Vehicles, Feb. 7, 1935.

RECOMMENDATIONS FOR LEGISLATION

The Commissioner of Public Works presented to the State Secretary on Dec. 4, 1935, as required by law that part of the current annual report which contains recommendations or suggestions for legislative action as follows:—

1. In order to provide for a revision of the motor vehicle law fixing the registration fee for certain motor vehicles, a modification of section 33, chapter 90, General Laws, as amended by chapter 409, Acts of 1935, is recommended, in its application to the rate fixed for registration of certain trucks and tractors.

APPROPRIATIONS

Chapter 249, Acts of 1935, making appropriations for the maintenance of departments, boards, commissions, institutions and certain activities of the Commonwealth, etc., is, in part, as follows:—

Item

Requirements for Extinguishing the State Debt

219. For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of two million five hundred ninety-eight thousand one hundred ninety dollars and eighty-three cents, payable from the following accounts and funds in the following amounts:—from the Highway Fund, one million one hundred eighty thousand one hundred seven dollars and fifty cents; and the remainder from the General Fund . \$2,598,190 83
- 219a. To meet one fourth of the expenditures authorized by sections one and two of chapter one hundred and twenty-two of the acts of nineteen hundred and thirty-one, as amended, and already in the main incurred, which is the proportionate part intended to be ultimately met by the commonwealth during the current fiscal year, thereby reducing by the sum hereby appropriated the amount that may be borrowed under section three of said chapter, without otherwise affecting the authority to borrow under said section three the remainder of the amount authorized to be borrowed thereunder, the sum of two million one hundred and twenty-five thousand dollars, the same to be paid from the Highway Fund 2,125,000 00

Interest on the Public Debt

220. For the payment of interest on the direct debt of the commonwealth, a sum not exceeding nine hundred thirty thousand dollars, of which sum three hundred seventy-four thousand five hundred forty-six dollars and twenty-five cents shall be paid from the Highway Fund 930,000 00

Service of the Department of Banking and Insurance
Division of Insurance:

307. For other personal services of the division, including expenses of the board of appeal and certain other costs of supervising motor vehicle liability insurance, a sum not exceeding one hundred ninety-five thousand dollars, of which sum not more than thirty-five thousand dollars may be charged to the Highway Fund 195,000 00

Service of the Department of Corporations and Taxation
Corporations and Tax Divisions:

313. For the salaries of certain positions filled by the commissioner, with the approval of the governor and council, and for additional clerical and other assistance, a sum not exceeding two hundred twenty-seven thousand four hundred dollars, of which sum not more than fifty thou-

sand dollars may be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so called, and not more than fifty thousand dollars may be payable from fees collected under chapters one hundred and twenty and two hundred and thirty-four, both of the acts of nineteen hundred and thirty-three, and under section twenty-seven of chapter one hundred and thirty-eight of the General Laws, as most recently amended, to cover the estimated cost of collection of alcoholic beverages taxes, so called . . . \$227,400 00

Service of the Department of Public Safety

Division of State Police:

616. For the salaries of officers, including detectives, a sum not exceeding five hundred thousand dollars, of which sum not more than one hundred eighty-four thousand dollars may be charged to the Highway Fund. The additional detectives, for which provision is hereby made, when appointed, shall not be under twenty-five years of age or over fifty years of age, notwithstanding the provisions of any other law to the contrary . . . 500,000 00
618. For other necessary expenses of the uniformed division, including traveling expenses of detectives, a sum not exceeding four hundred thirty-nine thousand dollars, of which sum not more than one hundred forty-one thousand dollars may be charged to the Highway Fund . . . 439,000 00

Service of the Department of Public Works

The appropriations made in the following four items are to be paid three quarters from the Highway Fund and one quarter from the Port of Boston receipts:

635. For the salaries of the commissioner and the associate commissioners, a sum not exceeding nineteen thousand five hundred dollars . . . 19,500 00
636. For personal services of clerks and assistants to the commissioner, a sum not exceeding eighty-four hundred dollars . . . 8,400 00
637. For traveling expenses of the commissioners, a sum not exceeding two thousand dollars . . . 2,000 00
638. For telephone service in the public works building, a sum not exceeding twenty-three thousand dollars . . . 23,000 00
- Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):
639. For the maintenance and operation of the public works building, a sum not exceeding one hundred seven thousand nine hundred dollars . . . 107,900 00
640. For the salaries of watchmen for the public works building, a sum not exceeding fourteen thousand two hundred and eighty dollars . . . 14,280 00
- The department of public works is hereby authorized to rebate the rent of certain space in the public works building occupied by the Copeland News Service.
- The department of public works is hereby authorized to rebate the rent of certain space in the public works building occupied by the federal auditors on Public Works Administration projects.
642. For personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding ninety-two thousand dollars . . . 92,000 00

Item

643.	For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, a sum not exceeding eleven thousand five hundred dollars	\$11,500 00
644.	For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding thirteen thousand five hundred dollars	13,500 00
645.	For the construction and repair of town and county ways, a sum not exceeding two million three hundred and fifty thousand dollars	2,350,000 00
646.	For aiding towns in the repair and improvement of public ways, a sum not exceeding one million four hundred fifty thousand dollars	1,450,000 00
647.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, a sum not exceeding three million one hundred forty-five thousand dollars	3,145,000 00
647a.	For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding five hundred thousand dollars	500,000 00
648.	For administering the law relative to advertising signs near highways, a sum not exceeding fifteen thousand dollars, to be paid from the General Fund	15,000 00
649.	For expenses of a topographical survey and map of the commonwealth, in addition to funds received from federal appropriations or private subscriptions, a sum not exceeding fifty thousand dollars	50,000 00
Registration of Motor Vehicles:		
650.	For personal services, a sum not exceeding nine hundred fifty-two thousand dollars, of which sum ten thousand dollars may be charged to the General Fund, and the remainder shall be paid from the Highway Fund	952,000 00
651.	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding four hundred eighty-three thousand dollars, to be paid from the Highway Fund	483,000 00
652.	For printing and other expenses necessary in connection with publicity for certain safety work, a sum not exceeding one thousand dollars, to be paid from the Highway Fund	1,000 00
653.	For the reconstruction of Ocean avenue in the city of Revere, as authorized by chapter three hundred and seventy-five of the acts of nineteen hundred and thirty-four, a sum not exceeding eighty thousand dollars, the same to be in addition to any amounts heretofore appropriated	80,000 00
Functions of the department relating to waterways and public lands:		
654.	For personal services of the chief engineer and assistants, a sum not exceeding fifty-five thousand dollars	55,000 00
655.	For services other than personal, including printing pamphlet of laws and the annual report, and for necessary	

Item

	office and engineering supplies and equipment, a sum not exceeding sixteen hundred dollars	\$1,600 00
656.	For the care and maintenance of the province lands and of the lands acquired and structures erected by the Provincetown tercentenary commission, a sum not exceeding five thousand dollars	5,000 00
657.	For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds; a sum not exceeding twenty-two thousand five hundred dollars	22,500 00
658.	For the improvement, development and protection of rivers and harbors, tide waters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, and of great ponds, a sum not exceeding one hundred thousand dollars, and any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered	100,000 00
659.	For re-establishing and permanently marking certain triangulation points and sections, as required by order of the land court in accordance with section thirty-three of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, a sum not exceeding one thousand dollars	1,000 00
660.	For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding five hundred dollars	<u>500 00</u>
661.	For the operation and maintenance of the New Bedford state pier, a sum not exceeding twelve thousand dollars	12,000 00
662.	For the compensation of dumping inspectors, a sum not exceeding five hundred dollars	500 00
663.	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding five thousand dollars	5,000 00
664.	For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding three thousand dollars	3,000 00
665.	For the operation and maintenance of the Cape Cod Canal pier, a sum not exceeding thirty-five hundred dollars	3,500 00
666.	For expenses of perambulating state boundary lines, a sum not exceeding one thousand dollars	1,000 00
	The unexpended balance of the appropriation made by item six hundred and thirty-eight of chapter two hundred and forty-five of the acts of nineteen hundred and thirty-one for certain work in the Taunton River, authorized by chapter four hundred and five of the acts of nineteen hundred and thirty, which was reappropriated by chapter one hundred and seventy-four of the acts of nineteen hundred and thirty-three, is hereby again reappropriated.	

Item

666a.	For the reconstruction of a certain pier at Plymouth, a sum not exceeding forty-five thousand dollars	\$45,000 00
	Total	\$255,600 00

Functions of the department relating to Port of Boston
(the following items are to be paid from the Port of
Boston receipts):

667.	For the construction of railroads and piers and for the development of certain land, a sum not exceeding ten thousand dollars	10,000 00
668.	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred eight thousand dollars	108,000 00
669.	For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding eighty thousand dollars	80,000 00
670.	For dredging channels and filling flats, a sum not exceeding ninety thousand dollars, the same to be in addition to any unexpended balance of the appropriation made for the purpose in the previous year	90,000 00

Miscellaneous

The following items are to be paid from the Highway
Fund, with the approval of the Metropolitan District
Commission:

691.	For maintenance of boulevards and parkways, a sum not exceeding five hundred sixty-eight thousand six hundred and seventy-five dollars	568,675 00
692.	For resurfacing of boulevards and parkways, a sum not exceeding two hundred seventy-five thousand dollars	275,000 00
	There is hereby reappropriated from the unexpended balance of the appropriation for resurfacing of boulevards and parkways for the fiscal year nineteen hundred and thirty-three the sum of twenty-six hundred eighty-two dollars and eighty-seven cents.	
693.	For maintenance of Wellington bridge, a sum not exceeding forty-seven hundred and eighty dollars	4,780 00

Unclassified Accounts and Claims

For certain other aid:

699.	For the compensation of certain public employees for injuries sustained in the course of their employment, as provided by section sixty-nine of chapter one hundred and fifty-two of the General Laws, as most recently amended by section seven of chapter three hundred and eighteen of the acts of nineteen hundred and thirty-three, a sum not exceeding fifty-five thousand dollars, of which sum not more than twenty thousand dollars may be charged to the Highway Fund	55,000 00
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DEFICIENCIES

For deficiencies in certain appropriations of previous
years, in certain items, as follows:

Service of the Department of Public Works

Functions of the department relating to highways:

For the suppression of gypsy and brown tail moths on state highways, the sum of ninety-one dollars and forty-three cents, to be paid from the Highway Fund	\$91 43
For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, the sum of twenty dollars and seventy-eight cents, to be paid from the Highway Fund	20 78

Functions of the department relating to waterways and public lands:

For the operation and maintenance of the New Bedford state pier, the sum of sixty-four dollars and twenty-four cents	64 24
For the operation and maintenance of the Cape Cod Canal pier, the sum of one hundred three dollars and twenty-eight cents	103 28

Functions of the department relating to Port of Boston:

For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, the sum of seventy-two cents, to be paid from the Port of Boston receipts	72
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SECTION 3. To provide for increases in the salaries and compensation of certain state officers and employees to be granted under the provisions of sections forty-five to fifty, inclusive, of chapter thirty of the General Laws, as appearing in the Tercentenary Edition thereof, there is hereby appropriated a sum not exceeding four hundred thousand dollars, of which sum not more than sixty thousand dollars shall be taken from the Highway Fund, not more than thirty thousand dollars from funds of the metropolitan district commission, and the balance from the General Fund, the same to be in addition to any appropriations otherwise made for such salaries and compensation. For the purpose of apportioning the appropriation made by this section, each sum expressed by section two of this act to be available in whole or in part for personal services shall be increased by such amount as will make available for salaries and compensation provided for thereby, so much as is required to provide for the aforesaid increases in such salaries and compensation. The state comptroller, in setting up such items for personal services on the appropriation ledger in his bureau, shall take as the amounts appropriated therefor by section one and this section the sums so expressed as increased as aforesaid, and he shall forthwith notify each officer having charge of any office, department or undertaking which receives such an appropriation for personal services of the amount thereof as so set up. The division of personnel and standardization shall furnish, upon the request of the state comptroller, all necessary assistance in carrying out the provisions of this act.

SECTION 4. No expenditures in excess of appropriations provided for under this act shall be incurred by any department or institution, except in cases of emergency, and then only upon the prior written approval of the governor and council.

SECTION 6. No payment shall be made or obligation incurred under authority of any special appropriation made by this act for construction of public buildings or other improvements at state institutions until plans and specifications have been approved by the governor, unless otherwise provided by such rules and regulations as the governor may make.

SECTION 7. No expenses incurred for mid-day meals by state employees, other than those who receive as part of their compensation a non-cash allowance in the form of full or complete boarding and housing, and those employees who are stationed beyond commuting distance from their homes for a period of more than twenty-four hours, shall be allowed by the commonwealth.

SUPPLEMENTARY APPROPRIATIONS

Chapter 497, Acts of 1935, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows:—

SECTION 1. To provide for supplementing certain items in the general appropriation act, and for certain new activities and projects, the sums set forth in section two, for the particular purposes and subject to the conditions stated therein, are hereby appropriated from the general fund or ordinary revenue of the commonwealth, unless some other source of revenue is expressed, subject to the provisions of law regulating the disbursement of public funds and the approval thereof.

SECTION 2.

Item

Service of the Department of Public Works

The appropriation made in the following item is to be paid three quarters from the Highway Fund and one quarter from the Port of Boston receipts:

636.	For personal services of clerks and assistants to the commissioner, a sum not exceeding twelve hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose	\$1,200 00
	Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):	
639.	For the maintenance and operation of the public works building, a sum not exceeding twenty-five thousand seven hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose	25,700 00
640.	For the salaries of watchmen for the public works building, a sum not exceeding sixty-five hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose	6,500 00
642.	For personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding fourteen hundred and forty dollars, the same to be in addition to any amount heretofore appropriated for the purpose	1,440 00
643a.	For expense of membership of the department in the American Association of State Highway Officials, a sum not exceeding three hundred and fifty dollars	350 00
647.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, a sum not exceeding four hundred ninety-seven thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	497,000 00

Registration of Motor Vehicles:

650.	For personal services, a sum not exceeding ten thousand five hundred dollars, to be paid from the Highway Fund and	
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Item

	to be in addition to any amount heretofore appropriated for the purpose	\$10,500 00
651.	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding thirty-seven thousand dollars, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose	37,000 00
	Specials:	
653a.	For the payment of land damages incidental to the road expenditures authorized by chapter four hundred and twenty of the acts of nineteen hundred and thirty, a sum not exceeding twenty-five thousand dollars, to be paid from the Highway Fund. Section twelve of said chapter four hundred and twenty shall not apply to this item	25,000 00
653b.	For the payment of land damages incidental to the road expenditures authorized by chapter three hundred and forty-one of the acts of nineteen hundred and thirty-four, a sum not exceeding twenty-five thousand dollars, to be paid from the Highway Fund	25,000 00
	Functions of the department relating to waterways and public lands:	
660.	For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding five hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose	500 00
665.	For the operation and maintenance of the Cape Cod Canal pier, a sum not exceeding one thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	1,000 00
666.	For expenses of perambulating state boundary lines, a sum not exceeding twenty-five hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose	2,500 00
666b.	(This item omitted.)	
666c.	For expenses of certain improvements at the New Bedford pier, as authorized by chapter three hundred and eighty-nine of the acts of the current year, a sum not exceeding ten thousand dollars	10,000 00
666d.	For expenses of certain improvements in the Salisbury reclamation district, as authorized by chapter three hundred and ninety-nine of the acts of the current year, a sum not exceeding thirteen thousand dollars	13,000 00
666e.	For expenditures for flood control of the Housatonic river, as authorized by chapter four hundred and thirteen of the acts of the current year, a sum not exceeding twelve thousand five hundred dollars	12,500 00
	Functions of the department relating to Port of Boston (the following items are to be paid from the Port of Boston receipts):	
668.	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding sixty-	

Item

	two hundred and fifty dollars, the same to be in addition to any amount heretofore appropriated for the purpose	\$6,250 00
668a.	For deficiencies in appropriations of previous years for the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding four thousand sixty dollars and six cents	4,060 06
669.	For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding twenty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	20,000 00
670.	For dredging channels and filling flats, a sum not exceeding thirty-five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	35,000 00
670a.	For the removal of certain abandoned hulks in Boston Harbor, as authorized by chapter two hundred and eighty-two of the acts of the current year, a sum not exceeding five thousand dollars	5,000 00

Miscellaneous

The following items are to be paid from the Highway Fund, with the approval of the Metropolitan District Commission:

691.	For maintenance of boulevards and parkways, a sum not exceeding twenty-eight thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	28,000 00
692a.	For the extension of the Mystic Valley Parkway, so-called, as authorized by chapter three hundred and seven of the acts of the current year, a sum not exceeding ten thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	10,000 00

Unclassified Accounts and Claims

705.	For the payment of claims authorized by certain resolves of the current year, a sum not exceeding thirty-six thousand eight hundred forty-seven dollars and ninety-six cents of which sum twenty-five hundred dollars shall be paid from the Highway Fund. Said payments shall be certified by the comptroller of the commonwealth only upon the filing of satisfactory releases or other evidence that the payments are accepted as full compensation on the part of the commonwealth in respect thereto	36,847 96
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DEFICIENCIES

For deficiencies in certain appropriations of previous years, in certain items, as follows:

Department of Public Works

For services other than personal for functions of the department relating to highways, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, the sum of eight dollars, to be paid from the Highway Fund	8 00
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For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, the sum of twenty dollars, to be paid from the Highway Fund	\$20 00
For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, the sum of one hundred forty-nine dollars and eighteen cents	149 18

Other Appropriations

653. For the reconstruction of Ocean avenue in the city of Revere, as authorized by chapter three hundred and seventy-five of the acts of nineteen hundred and thirty-four, as amended by chapter four hundred and eighty-seven of the acts of the current year, a sum not exceeding twenty-five thousand dollars, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose; provided, that the department of public works is hereby authorized to contract forthwith for work and to incur any other incidental expenses authorized up to the amount of six hundred and ten thousand dollars, as authorized by said chapter three hundred and seventy-five, as amended, and the state treasurer, for the purposes of this act, may borrow under authority granted by section forty-seven of chapter twenty-nine of the General Laws, as appearing in the Tercentenary Edition thereof	25,000 00
645. For the construction and repair of town and county ways, a sum not exceeding twenty-five thousand dollars, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose	25,000 00

HIGHWAY FUND DIVERSION

Chapter 476, Acts of 1935, provided for the transfer of the proceeds of the gasoline tax from the Highway Fund to the General Fund, as follows:

WHEREAS, The deferred operation of this act would tend to defeat its purpose, therefore it is hereby declared to be an emergency law, necessary for the immediate preservation of the public convenience.

BE IT ENACTED, ETC., AS FOLLOWS:

The state treasurer is hereby authorized and directed to transfer the sum of nine million five hundred thousand dollars from the Highway Fund to the General Fund.

BOND ISSUE LEGISLATION

Chapter 464, Acts of 1935, provided for a Public Works Program for the Purpose of Alleviating Existing Conditions resulting from Unemployment, as follows:

WHEREAS, The deferred operation of this act would tend to defeat its purpose, therefore it is hereby declared to be an emergency law, necessary for the immediate preservation of the public convenience.

BE IT ENACTED BY THE SENATE AND HOUSE OF REPRESENTATIVES IN GENERAL COURT ASSEMBLED, AND BY THE AUTHORITY OF THE SAME, AS FOLLOWS: SECTION 1. The following classes of public works projects may be carried out by the state department of public works or

under its direct supervision, subject to the following conditions and restrictions and within the following limits of aggregate ultimate liability on the part of the commonwealth:

Limits of Aggregate Ultimate Liability on the Part of the Commonwealth

(1) Highway projects, including alterations of highway bridges over or under railroads and the construction and reconstruction of circles, to be carried out, under the direct supervision of the department of public works, by any city or town eligible to receive allotments under chapter eighty-one or ninety of the General Laws, any such project to be paid for out of one hundred per cent grant to a city or town so eligible, except that an allotment for engineering services may be made at the discretion of the commissioner of said department before any such grant is made \$2,300,000 00

Said sum of \$2,300,000.00 shall be composed of the following items: I, Engineering, \$200,000.00; II, To towns under chapter 81 of the General Laws, \$50 per mile of public ways; III, To cities and towns not eligible under chapter 81 upon the basis of their respective payments for the state tax.

(2) Projects for the construction of sidewalks bordering state highways, to be carried out by said department, including expenses for engineering and land damages 4,000,000 00

(3) Highway projects under the Hayden-Cartwright bill, so called 1,741,877 00

(4) Grade crossing eliminations, including alterations of crossings not at grade, and highway projects, including construction, reconstruction and maintenance of state highways, land damages and expenses for engineering services, and also expenses necessary to carry out any highway or grade crossing projects to which the federal government contributes 3,958,123 00

(5) Projects for the improvement, development and protection of rivers and harbors, tide waters and foreshores, including work on Commonwealth Pier 1,000,000 00

(Of which not less than \$250,000.00 shall be expended elsewhere than in Boston Harbor.)

The commissioner of said department shall have full authority to select the projects that may be entered into under authority hereof and to carry out negotiations and enter into agreements relative thereto with the appropriate agencies of the federal government, if deemed advisable by him, and no project shall be entered into hereunder unless it is approved by him. The commonwealth may accept and use for any project so approved any grant of federal funds. For the purpose of carrying out projects under this act, the state treasurer may, from time to time, borrow on the credit of the commonwealth such sums, not exceeding in the aggregate thirteen million dollars and may issue in one or more series bonds, notes or other forms of written acknowledgment of debt, hereinafter referred to as obligations. Each series shall carry such rates of interest as the state treasurer may fix, with the approval of the governor, and shall be payable serially in such amounts and at such times as the state treasurer may determine, with the approval of the governor; provided, that the principal payments of each series shall be made annually in amounts as nearly equal as may be. The obligation last payable of any series issued hereunder shall become due not later than five years from the date of the obligations of such series. All obligations issued under this act shall be signed by the state treasurer and approved by the governor. Facsimiles of the signature of the governor printed thereon shall have the same effect as his written signature. All obligations issued under this act shall be payable, as to both principal and interest, in such funds as are, on the respective dates of payment of such principal and interest, legal tender for the payment of debts due

the United States of America. All interest payments and payments on account of principal on such obligations shall be paid from the Highway Fund, without appropriation; provided, that, notwithstanding the foregoing, such obligations shall be general obligations of the commonwealth. In anticipation of the sale of such obligations, the state treasurer may from time to time, with the approval of the governor, pay from the Highway Fund, without appropriation, any of the expenses of carrying out any projects authorized under this act; but all money so paid from said fund shall be repaid thereto out of the proceeds of the sale of such obligations.

SECTION 2. For the purposes of this act, the state department of public works and any city or town may enter into agreements whereby a city or town may obligate itself to acquire such lands or rights therein as may be necessary for carrying out any project aforesaid or to pay all expenses incident to the acquisition of such lands and rights therein, or both. For the purposes of this act, the state department of public works, on behalf of the commonwealth, or on behalf of any city or town entering into an agreement to carry out any project as aforesaid, or any city or town so entering into any agreement aforesaid on its own behalf, may enter upon or take by eminent domain under chapter seventy-nine of the General Laws, or acquire by purchase or otherwise, such public or private lands, cemeteries, public parks or reservations or parts thereof or rights therein, including lands or rights therein under the control of the metropolitan district commission, or such public ways, as may be necessary for carrying out any such project, including such lands or rights therein as may be necessary for the construction of any necessary drainage outlets; provided that no damages shall be paid for public lands or parks, parkways or reservations so taken. Upon the recording of an order to that effect by said department in its office, the title to and control of lands or rights therein taken or acquired in connection with a highway project, other than a state highway project, shall become vested in the city or town in which the land lies or the control of land or rights therein so taken or acquired shall become vested in the metropolitan district commission, and thereafter the highway improvement completed under such project shall be kept in good condition and repair by such city or town or the metropolitan district commission, as the case may be.

SECTION 3. For the purpose of paying any expenses incurred under any agreement entered into under the preceding section, a city, town or county may borrow such sums as may be necessary, and may issue bonds or notes therefor which shall be payable in not more than ten years; and such indebtedness shall, except as herein provided, be subject to chapter forty-four of the General Laws in the case of a city or town, and to chapter thirty-five of the General Laws in the case of a county. Any borrowing hereunder by a city or town may be outside its statutory limit of indebtedness.

Approved August 5, 1935.

FINANCIAL STATEMENTS

Summary of Income, Year Ending November 30, 1935

HIGHWAY FUND

(Section 34, Chapter 90, General Laws, as amended)

(See Chapter 288, Acts of 1925)

Fees (for registration of motor vehicles, licenses to operate, etc.) and fines (penalties, Sundry Courts), gross receipts	\$6,842,153	56
Gasoline tax, gross	17,366,074	32
Contributions for highways and assessments (G. L. Ch. 81)	156,094	16
Appropriation balances of previous years reverting	171,087	54
Contributions and refunds	13,800	80
Sale of old materials and buildings	3,112	05
Reimbursement for repairs to guard rail and other property	10,741	66
Rent of property (Nursery)	192	00
Rent of space, Public Works Building	52,328	64
Slot Machine Receipts	213	20
Premium and Interest on Bonds	99,108	89
	<hr/>	
	\$24,714,906	82

PORT OF BOSTON FUND
(Chapter 91, General Laws)

Rents (leases and permits)	\$144,609	93
Reimbursement for services (inspection of dumping dredged material in Boston Harbor)	94	86
Use of Commonwealth Pier No. 5 (wharfage, dockage, rentals, etc.)	116,813	77
Use of Commonwealth Pier No. 1 (rentals, etc.)	8,141	90
Revenue from permits for dumping dredged material at receiving basins	5,540	88
License charges (for tidewater displacement and occupying Commonwealth tide land, Boston Harbor)	40,162	38
Telephone pay station receipts	156	25
Sales of land	41,291	00
Sales of Boston Harbor maps		75
Appropriation balances of previous years reverting	2,511	75
	<hr/>	
	\$359,323	47

DEPARTMENT INCOME
(Ordinary Revenue)

Sales (specifications and plans for contracts)	\$456	00
Aircraft licenses	152	00
Reimbursement for services (inspection of dumping dredged material outside of Boston Harbor, Ch. 196, Acts of 1925)	398	97
License charges (for tidewater displacement and occupying Commonwealth tide lands outside of Boston Harbor)	5,914	77
Certified copying charges	135	00
Sales of Atlas sheets and miscellaneous plans	713	00
Use of Province Lands (S. 25, C. 91, G. L.)	201	25
Permits for advertising signs	9,202	11
Use of New Bedford State Pier	23,921	89
Use of Cape Cod Canal State Pier	4,203	47
Sundries	63	34
	<hr/>	
	\$45,361	80

IMPROVEMENT OF RIVERS AND HARBORS TRUST
(Sections 11, 29, Chapter 91, General Laws)

Contributions from towns, individuals or others	\$74,587 34
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HIGHWAY TRUST

(Section 30, Chapter 81, G. L.)

Federal Aid (reimbursement from United States Government)	3,309,287 63
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Total	\$28,503,467 06
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EXPENDITURES

The expenditures by the Department under the provisions of General Laws and other acts and the appropriation acts, chapters 249 and 497, Acts of 1935, during the fiscal year ending November 30, 1935, were as follows:

ADMINISTRATIVE

Commissioners, Associate Commissioners, Personal services of clerks, stenographers, and Commissioners' travel	\$30,684 92
Public Works Department Building, land and services	2,821 32
Public Works Building, equipment	1,806 61
Public Works Building, operation and maintenance	126,630 82
Public Works Building, telephone service	23,380 81
Public Works Building, Salaries of Watchmen	15,299 27
Total	\$200,623 75

RELATING TO HIGHWAYS

Personal Services—Chief Engineer, clerks and stenographers	\$94,055 31
----------------------------------------------------------------------	-------------

State Highways—Construction (Chapter 81, G. L.)	
General contract work	\$2,870,873 75
Engineering (supervision)	618,214 85
Investigation of Worcester Pike	14,971 07
Highway Testing Laboratory	11,500 08
Triangulation Points	98 70
Hingham-Hull (Chap. 118, Acts of 1931)	100 00
Fore River Bridge:	
Substructure	\$493,221 31
Superstructure	521,439 07

	1,014,660 38
	\$4,530,418 83

Maintenance and Repair of State Highways (Chapter 81, General Laws)

Reconstruction of State Highways

General contract work	\$1,146,824 34
Engineering, supervision on reconstruction	359,806 23
	\$1,506,630 57

Ordinary Maintenance

General Maintenance	\$1,989,289 11
Engineering (supervision)	229,312 18
Highway Testing Laboratory	9,913 87
Care and repair of road building machinery	187,052 14
Removal of snow from highways	940,316 31
Road planting and development	29,960 80
Traffic engineering, signs, and traffic count	140,467 98
Paint manufacture	18,270 79
Newburyport Bridge, Salisbury, Newburyport, over Merrimac River, maintenance and operation	4,691 92

Brightman St. Bridge, Fall River-Somerset, maintenance and operation	\$9,988 38	
New Bedford-Fairhaven Bridge, Acushnet River, maintenance and operation	11,743 88	
Quincy-Weymouth Bridge, maintenance and operation	19,834 72	
Detour and route maps	2,412 64	
Safety Advertising	2,000 00	
Geodetic Survey	3,419 56	
		\$3,598,674 28
<i>Construction of Town and County Ways</i> (Section 34, Chapter 90, G. L.)		
State's expenditures for work contracted for in cities and towns	\$2,110,178 46	
Engineering and expense (supervision)	330,407 37	
		\$2,440,585 83
<i>Aiding Towns in the Repair and Improvement of Public Ways</i> (Section 26, Chapter 81, G. L.)		
State's expenditures for work contracted for in cities and towns	\$1,413,011 45	
Engineering and expense (supervision)	121,788 46	
		\$1,534,799 91
<i>Emergency Public Works Construction</i>		3,237,453 73
<i>Special Acts:</i>		
<i>Incidentals</i> (printing, postage, supplies, etc.)		9,920 03
<i>Advertising signs, regulation of personal services and expenses</i>		15,253 09
<i>Highways in Malden, Braintree, Weymouth and Hingham</i>		
Hingham, Braintree and Weymouth		285 00
<i>Highways in Metropolitan District</i> (Chapter 420, Acts of 1930, as amended by Chapter 450, Acts of 1931)		
Section 1. Canton-Dedham-Wellesley, etc.	\$13,086 89	
Section 2. Canterbury St., Boston	45,108 46	
Section 3. Land taking—Neponset River, Mil- ton	400 00	
Section 4. West Roxbury-Brookline Parkway	13,817 20	
		72,412 55
<i>Abolition of Grade Crossings</i> (Chapter 417, Acts of 1930)		1,700 55
<i>Construction of Saugus River Bridge</i> (Chapter 241, Acts of 1932)		2,801 55
<i>Expenditures under Chapter 258, Acts of 1932.</i>		
Section 1. State Highway, Revere	\$14,455 00	
Section 2. Boston-Revere	2,858 29	
		17,313 29
<i>Alewife Brook Parkway Extension</i> (Chapter 302, Acts of 1932)		
		76,816 17
<i>Traffic Circle, Neponset River</i> (Chapter 341, Acts of 1934)		
		23,079 92
<i>Reconstruction of Ocean Avenue, Revere</i> (Chapter 375, Acts of 1934)		
		31,382 52
<i>Study relative to Bridges, Turners Falls</i> (Chap- ter 314, Acts of 1934)		
		5,427 50
<i>Chelsea North Bridge</i> (Chapter 342, Acts of 1924)		
		100,751 19
<i>Suppression of gypsy and brown-tail moths, on State Highways in cities and towns</i>		
		13,126 92
<i>Topographical survey and maps</i>		
		42,342 09
<i>Expense of membership in American Association of State Highway Officials</i>		
		350 00

Chap. 464, Acts of 1935—Bond Issue

Class 1. Cities and towns	\$2,075 197 32
Class 2. Construction of sidewalks	342,004 80
Class 4. Grade crossings, etc.	1,555,393 53
Class 5. Development of Boston Harbor	
	<hr/>
	\$3,972,595 65

Total Expenditures for Highways \$21,328,176 48

SUMMARY OF EXPENDITURES RELATING TO WATERWAYS

General Expenses \$57,230 00

Boston Harbor:

Bond Issue (Chap. 464, Acts 1935)	16,434 24
Dredging and Filling	129,435 21
Hough's Neck, Quincy, Construction (Chapter 322, Acts 1934)	8,480 54
Freeport Investigation (Chap. 48, Resolves 1934)	3,208 47
Maintenance and Operation of Commonwealth Pier 5, South Boston	106,000 03
Maintenance and Operation of Commonwealth Pier 1, East Boston. (No appropriation for 1935.)	
Maintenance of Property	137,615 13
Streets, Piers and Railroads	12,636 12
Wrecks, Removal of	5,253 14

Outside Boston Harbor:

Bond Issue (Chap. 464, Acts 1935)	97,190 97
Cape Cod Canal Pier, construction	75 00
Cape Cod Canal Pier, operation and maintenance	4,343 90
Cape Poge, Edgartown (Federal Public Works Adm.)	4,716 95
Compensation of Dumping Inspectors	63 46
Improvement of Rivers and Harbors	146,506 35
Marshfield Shore Protection (Chap. 407, Acts 1931)	78 75
New Bedford State Pier—Operation and Maintenance	8,920 96
New Bedford State Pier—(Chap. 389, Acts 1935)	4,341 03
Plymouth Property, expenses of	2,975 93
Plymouth State Pier, reconstruction (Chap. 245, Acts 1935)	32,028 19
Province Lands, expenses of	4,988 63
Repairing Damages to shore	21,833 98
Scituate Shore Protection (Chap. 286, Acts 1933)	50 00
State Boundary Lines, perambulation of	2,233 49
Stream Gauging	5,000 00
Topographical Survey	848 66
Town Boundaries, Surveying	842 23
Winthrop Breakwater Extension (Chap. 286, Acts 1934)	43,851 84

Total \$857,183 20

EXPENDITURES RELATING TO THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles \$1,460 524 17

SUMMARY OF EXPENDITURES BY DEPARTMENT
FOR YEAR ENDING NOVEMBER 30, 1935

Administrative	\$200,623 75
Relating to Highways	21,328,176 48
Registry of Motor Vehicles	1,460,524 17
Relating to Waterways	857,183 20

Total \$23,846,507 60

CO-OPERATIVE WORK — SUPERVISION OF EXPENDITURES

The Department has supervised the expenditures during the year by cities, towns and counties, under Chapter 81, General Laws, as amended, of approximately \$2,987,436.93 for co-operative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Department.

Financial statement verified,
Approved, GEO. E. MURPHY, *Comptroller*.

RELATING TO HIGHWAYS

GENERAL STATEMENT

State Highways.—During the year ending November 30, 1935, the Department laid out new State highways amounting to 25.16 miles in 14 cities and towns. Under Chapter 81, General Laws, as amended by Chapter 427, Acts of 1931, 2.04 miles of State highway were discontinued or abandoned. The total length of State highways at the end of the year was 1,875.38 miles.

Highways Constructed in 1935.—Construction has been completed on 21.344 miles of State highway and 163.815 miles of highway under the provisions of Section 34, Chapter 90, General Laws, as amended, making a total of 185.159 miles completed during the year.

Of the above highways completed this year, the classification according to type of pavement is as follows:

- 5.029 miles of Reinforced Cement Concrete.
- 2.792 miles of Sheet Type Cement Concrete.
- 57.617 miles of Bituminous Macadam.
- 16.257 miles of Bituminous Concrete.
- 45.525 miles of Bituminous Concrete (Mixed in Place).
- 33.576 miles of Gravel with Bituminous Treatment.
- 13.185 miles of Gravel.
- 11.178 miles of Penolithic.

Resurfacing, Reconstruction and Widening of State Highways.—During the year 3.517 miles of State highway were widened but not resurfaced, and 38.778 miles were resurfaced or reconstructed and widened. In addition to this work on which the surfacing has been completed, there are several miles of road in various stages of completion which are scheduled to be finished next year.

The Resurfacing or Reconstruction of State Highways in 1935 was divided into types as follows:

- 2.242 miles of Reinforced Cement Concrete.
- 19.069 miles of Bituminous Macadam.
- 17.202 miles of Bituminous Concrete.
- 0.265 miles of Penolithic.

Surveys, Plans and Estimates.—During the year ending November 30, 1935, preliminary surveys, plans and estimates were made as follows:

For State Highway Construction.—Reconnaissance surveys and plans in 1 city and 17 towns, 68.48 miles; preliminary surveys in 7 cities and 35 towns, 84.983 miles; plans in 2 cities and 16 towns, 30.637 miles; preliminary estimates in 4 cities and 12 towns, 22.923 miles; lines and grades in 3 cities and 14 towns, 27.193 miles; and final surveys in 3 cities and 18 towns, 28.975 miles.

For State Highway Reconstruction and Resurfacing.—Reconnaissance surveys and plans in 5 towns, 11.052 miles; preliminary surveys in 5 cities and 23 towns, 45.147 miles; plans in 6 cities and 19 towns, 41.435 miles; preliminary estimates in 4 cities and 11 towns, 36.325 miles; lines and grades in 5 cities and 19 towns, 71.780 miles; and final surveys in 4 cities and 27 towns, 75.520 miles.

For State Highway Maintenance.—Preliminary surveys and plans in 1 city and 6 towns, 8.470 miles; lines and grades in 1 city and 6 towns, 8.470 miles.

Under Section 34, Chapter 90, General Laws, as amended.—Reconnaissance surveys and plans in 13 towns, 12.25 miles; preliminary surveys in 13 cities and 228 towns, 246.107 miles; plans in 13 cities and 231 towns, 225.304 miles; prelimi-

nary estimates in 12 cities and 201 towns, 175.295 miles; lines and grades in 18 cities and 199 towns, 182.134 miles; and final surveys in 8 cities and 92 towns, 85.643 miles.

Under the provisions of various Acts and Resolves, surveys, plans, estimates, lines and grades were made as follows:

Chapter 375, Acts of 1934: 0.0265 mile of surveys and plans in 1 city, 0.802 mile of preliminary estimate and lines and grades in 1 city.

Precise levels have been made in 33 cities and towns; first order leveling, 166 miles have been made and 285 bench marks established; second order leveling, 57.4 miles have been made and 101 bench marks established.

Permits.—There were 1,748 permits issued during the year for opening or occupying State highways for various purposes.

Engineering Advice to Other Departments.—Advice to Department of Education; 0.218 mile of preliminary survey and plans in 1 town, 0.288 mile of preliminary estimate, lines and grades in 1 town.

Advice to Department of Public Health, 0.492 mile of preliminary survey, plans, lines and grades in 1 town.

Engineering Advice to Municipal Authorities.—The Department furnished engineering advice without charge to 34 cities and towns in accordance with the provisions of Section 1, Chapter 81, General Laws.

Approval of Specifications.—The Department approved during the year under the provisions of Section 7, Chapter 44, General Laws, as amended, specifications for the construction of roads in 19 cities and towns.

Planting of Trees on State Highways.—During the past year, 3,700 trees were planted along roadsides making a total of 73,615 trees thus set out in the past thirty-one years. In addition, there were planted throughout the State 7,378 shrubs, 1,997 vines, and 2,227 evergreens; also 950 small pines on bare slopes and ragged cuts.

PETITIONS, MEETINGS AND HEARINGS

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by Section 1, Chapter 81, General Laws; appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 185 cases; on the matter of outdoor advertising in three towns; on the matter of the making of rules and regulations for the reasonable and proper control of transportation by motor vehicle of personal property over public ways; on the matter of special regulations for motor vehicles in Springfield, Milton, Canton, Lexington and Boston; on the matter of the relocation of the tracks of the Eastern Massachusetts Street Railway Company on the State highway in Boston; and on the matter of the elimination of grade crossings in Newbury and Weymouth.

Petitions were received and contracts signed during the year as follows:

	Petitions	Contracts
State highways	25	23
Work under section 34, chapter 90, General Laws	—	482
Work under section 26, chapter 81, General Laws	175	175
Work under Special Acts	—	3
Miscellaneous	—	17
Elimination of grade crossings	—	4
Total	200	704

STATE HIGHWAYS

Petitions for State Highways

General Laws, Chapter 81, Section 4 (Tercentenary Edition), provides that—
 “If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city or

town, they may apply, by a written petition, to the department, requesting that said way be laid out and taken charge of by the Commonwealth."

Petitions under the aforesaid section have been received during the year, as follows: —

SELECTMEN OF PETERSHAM: — Road locally known as the Phillipston Road, extending from Athol road to the dividing line between the towns of Petersham and Phillipston. Received Dec. 5, 1934.

SELECTMEN OF LYNNFIELD: — Road extending from the Newburyport Turnpike over a new location, at or near the crossing of the abandoned Boston & Maine Railroad, easterly to the dividing line between the town of Lynnfield and the city of Peabody at or near Locust Street. Received Jan. 14, 1935.

MAYOR AND COUNCILLORS OF PEABODY: — Road extending from the dividing line between the town of Lynnfield and the city of Peabody, at or near Locust Street, over a new location, easterly and northerly through the junction of Forest and Summit Streets to a point on the dividing line between the city of Peabody and the town of Danvers easterly from Andover Street. Received Jan. 14, 1935.

SELECTMEN OF LUDLOW: — Road extending from Ludlow Bridge northeasterly along Center Street to Ludlow Center, and thence easterly and northeasterly along Belchertown Street to the dividing line between the towns of Ludlow and Belchertown. Received Feb. 4, 1935.

MAYOR AND ALDERMEN OF HOLYOKE: — Road locally known as Main Street and Springfield Street, from the center line of Prew Avenue on the north to the city line at West Springfield on the south. Received Feb. 12, 1935.

SELECTMEN OF MONTAGUE: — Road extending over Federal Street, new location and Leverett Road from Main Street in Millers Falls southwesterly to the dividing line between the towns of Montague and Sunderland. Received Mar. 13, 1935.

SELECTMEN OF ATHOL: — Road extending from South Main Street near Gage Road, over a new location, southwesterly to the dividing line between the towns of Athol and Orange. Received Mar. 22, 1935.

SELECTMEN OF LEVERETT: — Road locally known as Long Plain Road, extending from the dividing line between the towns of Sunderland and Leverett to the dividing line between the towns of Leverett and Amherst. Received Apr. 10, 1935.

SELECTMEN OF AMHERST: — Road locally known as Leverett Street, extending from the dividing line between the towns of Leverett and Amherst to North Pleasant Street in Amherst. Received Apr. 10, 1935.

SELECTMEN OF SUNDERLAND: — Road extending from the dividing line between the towns of Montague and Sunderland, in a general southerly direction, to the dividing line between the towns of Sunderland and Hadley. Received Apr. 9, 1935.

SELECTMEN OF WEST STOCKBRIDGE: — Road extending from the State highway connecting West Stockbridge and Pittsfield westerly to the New York State line. Received May 14, 1935.

SELECTMEN OF MONTEREY: — Road extending from the dividing line between the towns of Great Barrington and Monterey, easterly through Monterey to the dividing line between the towns of Monterey and Otis. Received May 22, 1935.

SELECTMEN OF ALFORD: — Road locally known as the Green River Valley Road, extending from the dividing line between the towns of Egremont and Alford to the dividing line between the towns of Alford, Mass., and Hillsdale, N. Y. Received May 3, 1935.

SELECTMEN OF HATFIELD: — Road locally known as North Main and Elm Streets, extending from the dividing line between Whately and Hatfield to the dividing line between the town of Hatfield and city of Northampton. Received July 31, 1935.

SELECTMEN OF DANVERS: — Road extending from a point on the dividing line between the city of Peabody and the town of Danvers at or near Waters River, over a new location northerly and easterly to a point on the dividing

line between the town of Danvers and the city of Beverly near Folly Hill. Received Aug. 14, 1935.

MAYOR AND ALDERMEN OF PEABODY.— Road extending from a point on the dividing line, between the town of Lynnfield and the city of Peabody at or near Locust Street, easterly and northerly over a new location to a point on the dividing line between the city of Peabody and the town of Danvers at or near Waters River. Received Aug. 14, 1935.

MAYOR AND ALDERMEN OF BEVERLY:— Road extending from a point on the dividing line between the town of Danvers and the city of Beverly near Folly Hill, easterly over a new location to a point on the dividing line between the city of Beverly and the town of Wenham at or near Boulder Lane. Received Aug. 21, 1935.

SELECTMEN OF METHUEN:— Road locally known as Broadway, extending from Wardell Square at the junction of Broadway and Hampshire Street to the New Hampshire line. Received Sept. 5, 1935.

COUNTY COMMISSIONERS OF BARNSTABLE COUNTY:— Road extending from a point near the new Bourne Bridge, connecting with the Sagamore Bridge, and extending in a near direct line through the Mid Cape to Provincetown. Received Aug. 31, 1935.

SELECTMEN OF GREAT BARRINGTON:— Road extending from the junction of highway route 69 with routes 17 and 41 to the dividing line between the towns of Egremont and Great Barrington. Received Oct. 1, 1935.

MAYOR AND ALDERMEN OF NORTHAMPTON:— Road locally known as North King Street, extending from the end of the State highway between Greenfield and Northampton at Water Street southerly to the New York, New Haven & Hartford R. R. Underpass, also road locally known as North Main Street, extending from the end of the Berkshire Trail at Florence Street, Leeds, easterly to Bridge Road. Received Oct. 9, 1935.

SELECTMEN OF SHREWSBURY:— Road locally known as Main Street, extending from the junction of Main Street and Maple Avenue to the dividing line between the town of Shrewsbury and the city of Worcester. Received Oct. 24, 1935.

SELECTMEN OF SAUGUS:— Road extending from a point on the dividing line between the town of Saugus and city of Revere near the intersection of the boundary lines of Revere, Malden, Melrose, and Saugus northerly over a new location to the intersection of the Newburyport Turnpike and Felton Street. Received Nov. 1, 1935.

MAYOR AND CITY COUNCIL OF REVERE:— Road locally known as Squire Road, extending from Broadway westerly to a point near Stevens Street; thence on new location, northwesterly to a point on the dividing line between the cities of Malden and Revere near the intersection of Lynn and Salem Streets, also a short section of highway extending from the dividing line between the cities of Malden and Revere northerly over a new location to the dividing line between the city of Revere and town of Saugus near the intersection of the boundary lines of Revere, Malden, Melrose and Saugus. Received Nov. 7, 1935.

MAYOR AND ALDERMEN OF MALDEN:— Road extending from a point on the dividing line between the cities of Malden and Revere at or near the intersection of Lynn and Salem Streets, westerly and northerly over a new location to a point on the dividing line between the cities of Malden and Revere near the intersection of the boundary lines of Revere, Malden, Melrose and Saugus. Received Nov. 6, 1935.

CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS

(Chapter 81, General Laws, as amended)

The following contracts were entered into during the year for the construction and reconstruction of State highways, and work incidental thereto, in various municipalities:—

Dracut-Lowell-Methuen

Dec. 4, 1934, contract made with Ellsworth H. Lewis, of Andover, for reconstructing about 36,663 feet of State highway in Dracut, Lowell and Methuen, the surface consisting of bituminous concrete in Lowell and of bituminous macadam in Dracut and Methuen. The proposal amounted to \$278,579.30. Work completed Sept. 4, 1935. Expenditure during 1935, \$374,695.59.

Revere

Dec. 13, 1934, contract made with M. McDonough Co., of Saugus, for constructing the substructure of a steel bridge over the Boston, Revere Beach and Lynn Railroad on the North Shore Road in Revere, and surfacing the approaches thereto and the underpass road with bituminous macadam. The proposal amounted to \$139,340.80. Work completed Aug. 6, 1935. Expenditure during 1935, \$148,802.21.

Boston-Dedham

Dec. 26, 1934, contract made with Arute Bros., Incorporated, of Bridgewater, for constructing a precast reinforced concrete pile bridge with reinforced concrete beam deck over Mother Brook in Dedham on the Providence Turnpike Extension, about 5,144 feet of State highway on the Providence Turnpike and new location in Dedham, and about 3,464 feet of State highway on the same road in Boston, the surface over the bridge consisting of bituminous concrete, and the surface of the roadway consisting of sections of bituminous macadam, sheet asphalt, and plain concrete. The proposal amounted to \$288,701.70. Work completed Oct. 7, 1935. Expenditure during 1935, \$317,603.77.

Revere

Jan. 2, 1935, contract made with Lackawanna Steel Construction Corporation, of Buffalo, N. Y., for furnishing, fabricating and erecting a steel bridge superstructure over the Lynnway and the Boston, Revere Beach and Lynn Railroad. The proposal amounted to \$121,987.40. Work completed Aug. 1, 1935. Expenditure during 1935, \$121,610.66.

Otis

Jan. 8, 1935, contract made with Warner Bros. and Goodwin, Inc., of Sunderland, for constructing about 5,801 feet of State highway on Monterey Road, the surface consisting of stone mixed in place with tar. The proposal amounted to \$18,189.75. Work completed July 20, 1935. Expenditure during 1935, \$18,587.10.

Revere

Jan. 22, 1935, contract made with James G. Dempsey, of Philadelphia, Pa., for mill and shop inspection of structural steel for the superstructure of the highway bridge over the Boston, Revere Beach and Lynn Railroad. The proposal amounted to \$319.60. Work completed May 25, 1935. Expenditure during 1935, \$320.28.

Bourne-Wareham

Mar. 5, 1935, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing an extension to a reinforced concrete beam bridge over Cohasset Narrows. The proposal amounted to \$55,091.50. Work about four-fifths completed. Expenditure during 1935, \$52,190.08.

Cheshire

Mar. 5, 1935, contract made with The Lane Construction Corporation, of Meriden, Conn., for reconstructing about 11,819 feet of State highway on North Street; the surface consisting of reinforced cement concrete with bituminous macadam shoulders on each side. The proposal amounted to \$137,419.35. Work completed Sept. 24, 1935. Expenditure during 1935, \$144,658.81.

Northborough

April 30, 1935, contract made with Martin J. Kelly, of Boston, for furnishing and planting trees, shrubs, herbaceous plants and vines on the Worcester Turn-

pike and Southwest Connection. The proposal amounted to \$11,182.05. Work completed May 28, 1935. Expenditure during 1935, \$11,182.05.

Lenox-Sheffield

May 8, 1935, contract made with Warner Bros. and Goodwin, Inc., of Sunderland, for furnishing and planting trees, shrubs and vines on Automobile Route No. 7 in Lenox and Sheffield. The proposal amounted to \$11,108.30. Work completed Nov. 29, 1935. Expenditure during 1935, \$10,091.80.

Southwick

May 14, 1935, contract made with Warren Brothers Roads Company, of Cambridge, for reconstructing about 36,297 feet of State highway on College Highway; the surface consisting of Warcolite Bituminous Concrete Pavement. The proposal amounted to \$119,333.30. Work completed Oct. 28, 1935. Expenditure during 1935, \$105,008.20.

Framingham

May 28, 1935, contract made with Louis A. Reardon, of North Abington, for furnishing and planting trees, shrubs and vines in the town of Framingham. The proposal amounted to \$2,435.13. Work completed Nov. 19, 1935. Expenditure during 1935, \$2,435.13.

Athol-Orange

June 4, 1935, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing about 7,275 feet of State highway on New Salem Road in Athol, and about 8,103 feet of State highway on Plains Road in Orange; the surface consisting of bituminous macadam. The proposal amounted to \$96,680.40. Work practically completed. Expenditure during 1935, \$86,722. 22.

Athol

June 25, 1935, contract made with the Wey Construction Company, of Boston, for constructing a reinforced concrete extension of a concrete arch bridge over Lake Rohunta outlet, and a reinforced concrete pile bridge over Millers River, on the New Salem Road Cut-off. The proposal amounted to \$43,419.20. Work about three-fourths completed. Expenditure during 1935, \$36,434.35.

Rutland

May 21, 1935, contract made with J. J. Callahan, of Boston, for reconstructing about 4,400 feet of State highway on Worcester Road in Rutland; the surface consisting of bituminous macadam. The proposal amounted to \$16,664.50. Work completed Aug. 3, 1935. Expenditure during 1935, \$18,599.88.

Natick

June 25, 1935, contract made with M. E. Hennessy, of Brookline, for furnishing and planting trees, shrubs and vines at the junction of the Boston-Worcester Turnpike and North Main Street in Natick. The proposal amounted to \$4,984.55. Work completed Oct. 22, 1935. Expenditure during 1935, \$5,020.19.

Montague

July 16, 1935, contract made with Carlo Bianchi and Company, of Framingham, for constructing a reinforced concrete bridge over Saw Mill River, a plate girder bridge under the Central Vermont Railway, and a steel plate girder bridge of three spans over the Central Vermont Railway and Boston and Maine Railroad, on the State highway, known as Federal Street. The proposal amounted to \$104,021.25. Work about four-fifths completed. Expenditure during 1935, \$82,820.60.

Montague

July 16, 1935, contract made with Carlo Bianchi and Company, Inc., of Framingham, for constructing about 24,133 feet of State highway on Federal Street, Montague Road and new location; the surface consisting of bituminous macadam. The proposal amounted to \$165,138.50. Work about three-eighths completed. Expenditure during 1935, \$60,203.60.

Otis-Blandford

July 16, 1935, contract made with Kelleher Corporation, of Montague, for constructing about 14,130 feet of State highway on Monterey Road and 4,202 feet of State highway on Blandford Road in Otis, and about 192 feet of State highway on Otis Road in Blandford; the surface consisting of stone mixed in place with tar. The proposal amounted to \$59,718.50. Work about three-fourths completed. Expenditure during 1935, \$52,699.61.

Blandford

July 16, 1935, contract made with Lindholm Construction Co., Inc., of Pittsfield, for reconstructing about 10,310 feet of State highway on the Otis Road; the surface consisting of bituminous macadam; the proposal amounted to \$45,886.00. Work completed Oct. 26, 1935. Expenditure during 1935, \$44,751.99.

Millbury

Sept. 4, 1935, contract made with Arute Bros., Incorporated, of Bridgewater, for constructing and reconstructing about 11,558 feet of State highway on Uxbridge Road and new location, including the construction of a steel stringer bridge of one span with reinforced concrete deck over Blackstone River, and the construction of a steel stringer and reinforced concrete beam bridge of six spans over the New York, New Haven and Hartford Railroad. The surface of the roadway consisting of reinforced concrete pavement. The proposal amounted to \$359,716.10. Work about one-third completed. Expenditure during 1935, \$113,897.51.

Lowell-Dracut-Methuen

Oct. 2, 1935, contract made with Ellsworth H. Lewis, of Andover, for constructing sidewalks and miscellaneous work. The proposal amounted to \$50,774.05. Work about four-fifths completed. Expenditure during 1935, \$51,458.00.

Bourne

Oct. 8, 1935, contract made with Michael F. Roach & Sons, Inc., of East Bridgewater, for reconstructing about 1,175 feet of State highway on the road leading from the ramp near Sagamore Bridge; the surface consisting of penolithic pavement. The proposal amounted to \$10,393.75. Work about four-fifths completed. Expenditure during 1935, \$8,841.57.

EXPENDITURES FOR CONSTRUCTION OF STATE HIGHWAYS

The expenditures for the construction of State highways in various counties during the year were:—

Barnstable . . .	\$159,686.26	Middlesex . . .	\$366,413.38
Berkshire . . .	102,984.87	Norfolk . . .	513,756.86
Bristol . . .	19,106.85	Plymouth . . .	64,839.86
Essex . . .	938,718.68	Suffolk . . .	708,682.14
Franklin . . .	209,048.88	Worcester . . .	366,872.95
Hampden . . .	65,307.28		
Hampshire . . .	340.44	Total	\$3,515,758.45

Details of the foregoing expenditures follow:—

Barnstable County.— Bourne, \$148,669.11; Dennis, \$426.93; Yarmouth, \$10,590.22.

Berkshire County.—Cheshire, \$30.62; Great Barrington, \$62.12; Lenox, \$8,012.89; No. Adams, \$2,975.55; Otis, \$88,933.58; Richmond, \$327.01; Sheffield, \$2,530.39; Williamstown, \$112.71.

Bristol County.—Fairhaven, \$17,011.94; North Attleboro, \$439.09; Rehoboth, \$244.93; Seekonk, \$244.93; Swansea, \$278.10; Taunton, \$887.86.

Essex County.—Amesbury, \$1,318.31; Andover, \$175,227.86; Haverhill, \$50,693.16; Lynn, \$116.91; Newbury, \$325.81; Newburyport, \$710,075.14; Salisbury, \$961.49.

Franklin County.—Montague, \$180,148.23; Orange, \$28,900.65.

Hampden County.—Blandford, \$618.66; Brimfield, \$52.27; Southwick, \$82.22; Westfield, \$64,554.13.

Hampshire County.—Huntington, \$340.44.

Middlesex County.—Arlington, \$97,509.64; Belmont, \$13,935.70; Billerica, \$34,677.63; Cambridge, \$22,422.93; Chelmsford, \$59,708.96; Concord, \$2,812.45; Framingham, \$34,555.62; Lexington, \$324.18; Medford, \$32.33; Natick, \$44,098.71; Newton, \$56,206.85; Tyngsborough, \$128.38.

Norfolk County.—Bellingham, \$210.71; Brookline, \$162,429.52; Cohasset, \$4,206.20; Dedham, \$235,560.55; Foxborough, \$249.93; Needham, \$2,449.26; Norwood, \$1,796.20; Stoughton, \$1,004.65; Wellesley, \$104,435.26; Westwood, \$1,414.58.

Plymouth County.—Hingham, \$7,256.92; Marshfield, \$4,536.13; Scituate, \$11,176.50; Wareham, \$41,870.31.

Suffolk County.—Boston, \$238,315.95; Revere, \$470,366.19.

Worcester County.—Ashburnham, \$305.40; Athol, \$127,366.98; Auburn, \$4,898.52; Charlton, \$251.30; Dudley, \$612.31; Millbury, \$114,734.63; Northboro, \$13,755.60; Oxford, \$367.39; Southborough, \$489.85; Shrewsbury, \$1,867.02; Sterling, \$434.69; Sturbridge, \$676.97; Uxbridge, \$363.79; Webster, \$428.62; Worcester, \$100,319.88.

Fore River Bridge, Quincy \$1,014,660.38

Total Construction Expenditures \$4,530,418.83

HIGHWAY IMPROVEMENTS AUTHORIZED BY SPECIAL ACTS

In accordance with the provisions of Chapter 380 of the Acts of 1934, as amended by Chapter 368 of the Acts of 1935, the following contract was entered into:—

Boston-Brookline

Sept. 24, 1935, contract made with Coleman Bros. Corporation, of Boston, for constructing a highway grade separation, including the construction of a steel rigid frame bridge encased in concrete with stone facing in Boston over Huntington Avenue, and two reinforced concrete bridges over Muddy River in Boston and Brookline; the surface consisting of bituminous concrete. The proposal amounted to \$344,891.00. Work about one-seventh completed. Expenditure during 1935, \$51,000.42.

In accordance with the provisions of Chapter 341 of the Acts of 1934, the following contract was entered into:

Boston

Sept. 24, 1935, contract made with J. J. Callahan, of Boston, for constructing a traffic circle; the surface consisting of penolithic pavement. The proposal amounted to \$14,898.15. Work practically completed. Expenditure during 1935, \$14,445.59.

In accordance with the provisions of Chapter 249 of the Acts of 1935, the following contract was entered into:

Rutland

Nov. 12, 1935, contract made with the Middlesex Construction Company, of Framingham, for construction about 6,410 square yards of mixed in place surface and about 3,310 square yards of premixed surface on the grounds of the Rutland Sanatorium. The proposal amounted to \$10,009.00. Work not yet commenced.

TRAFFIC CONTROL SIGNALS

The following contracts were entered into during the year for furnishing and installing traffic control signals in various municipalities:—

Newburyport

Dec. 24, 1934, contract made with the Municipal Signal & Supply Company, of Boston. The proposal amounted to \$582.25. Work completed Mar. 27, 1935. Expenditure during 1935, \$582.25.

Auburn

Dec. 26, 1934, contract made with the Municipal Signal & Supply Company, of Boston. The proposal amounted to \$2,190.99. Work completed Mar. 8, 1935. Expenditure during 1935, \$2,190.99.

Revere

Dec. 26, 1934, contract made with the Municipal Signal & Supply Company, of Boston. The proposal amounted to \$1,639.04. Work completed July 22, 1935. Expenditure during 1935, \$1,639.04.

Brookline

Jan. 8, 1935, contract made with the Municipal Signal & Supply Company, of Boston. The proposal amounted to \$9,121.07. Work completed Mar. 26, 1935. Expenditure during 1935, \$9,121.07.

Concord

Feb. 5, 1935, contract made with the Municipal Signal & Supply Company, of Boston. The proposal amounted to \$2,837.06. Work completed April 3, 1935. Expenditure during 1935, \$2,837.06.

West Boylston

April 16, 1935, contract made with the Municipal Signal & Supply Company, of Boston. The proposal amounted to \$1,705.89. Work completed May 9, 1935. Expenditure during 1935, \$1,705.89.

Concord-Lincoln

April 16, 1935, contract made with the Eagle Signal Corporation, of Newton. The proposal amounted to \$8,514.86. Work completed June 15, 1935. Expenditure during 1935, \$8,567.97.

Arlington-Belmont

April 23, 1935, contract made with The Gamewell Company, of Newton. The proposal amounted to \$2,309.00. Work completed June 20, 1935. Expenditure during 1935, \$2,309.00.

Arlington-Belmont-Lincoln-Lexington

May 14, 1935, contract made with the Municipal Signal & Supply Company, of Boston. The proposal amounted to \$10,213.23. Work completed June 22, 1935. Expenditure during 1935, \$10,213.23.

Boston-Dedham

Nov. 5, 1935, contract made with the Eagle Signal Corporation, of Springfield. The proposal amounted to \$5,196.15. Work just commenced.

Medford

Nov. 26, 1935, contract made with the Municipal Signal & Supply Company, of Boston. The proposal amounted to \$1,153.00. Work not yet commenced.

ELIMINATION OF GRADE CROSSINGS

The following contracts were entered into during the year under the provisions of Section 70, Chapter 159, of the General Laws, Ter. Ed., as amended by Section 1, Chapter 357, of the Acts of 1934: —

Waltham

Nov. 12, 1935, contract made with H. L. Hauser Co., Inc., of Boston, for constructing the substructure for a steel stringer bridge over the Boston and Maine Railroad, and approaches thereto; the surface of the approaches consisting of two reinforced cement concrete parallel roadways each 30 feet in width, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$147,951.10. Work just commenced. Expenditure during 1935, \$867.00.

Waltham

Nov. 12, 1935, contract made with The Boston Bridge Works, Incorporated, of Cambridge, for furnishing, fabricating and erecting the superstructure of a steel stringer bridge over the Boston and Maine Railroad. The proposal amounted to \$36,017.43. Work not yet commenced.

Weymouth

Nov. 26, 1935, contract made with Bradford Weston, of Hingham, for constructing a steel plate girder bridge over the New York, New Haven & Hartford Railroad, and the approaches thereto, on Main Street; the surface of the approaches consisting of bituminous macadam and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$94,627.90. Work not yet commenced.

Newbury-Newburyport

Nov. 26, 1935, contract made with M. McDonough Co., of Saugus, for constructing a steel plate girder bridge over the Boston and Maine Railroad on the Newburyport Turnpike, and approaches thereto; the surface of the approaches consisting of two reinforced cement concrete parallel roadways, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$262,428.20. Work not yet commenced.

CONTRACTS

EMERGENCY PUBLIC WORKS

Holyoke

Jan. 8, 1935, contract made with Daniel O'Connell's Sons, Inc., of Holyoke, for constructing a section of highway and a steel plate girder bridge on Northampton Street; the surface consisting of reinforced cement concrete. The proposal amounted to \$153,945.55. Work completed October 1, 1935. Expenditure during 1935, \$144,834.95.

Braintree-Quincy

Jan. 8, 1935, contract made with Bradford Weston, of Hingham, for reconstructing 17,154 feet of State highway on Washington Street and Franklin Street in Braintree and Willard Street in Quincy; the surface consisting of bituminous concrete. The proposal amounted to \$135,896.55. Work completed Nov. 12, 1935. Expenditure during 1935, \$176,060.47.

The following contracts were entered into for secondary roads in various municipalities; the Federal Government paying 100% of the cost of construction:

Westfield

Mar. 5, 1935, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing about 3,575 feet of highway on Main Street; the surface consisting of reinforced cement concrete. The proposal amounted to \$48,377.25. Work completed July 12, 1935. Expenditure during 1935, \$52,001.11.

Haverhill

May 21, 1935, contract made with R. G. Watkins & Son, Inc., of Amesbury, for reconstructing about 4,625 feet of highway on Kenoza Avenue; the surface on about 750 feet consisting of reinforced cement concrete, and the surface of the balance of the highway consisting of bituminous macadam. The proposal amounted to \$37,539.85. Work completed July 22, 1935. Expenditure during 1935, \$40,797.44.

Billerica-Chelmsford

May 28, 1935, contract made with Carlo Bianchi and Company, Inc., of Framingham, for constructing about 14,973 feet of highway on Chelmsford Road in Billerica and on Billerica Road in Chelmsford; the surface consisting of penolithic pavement. The proposal amounted to \$78,471.95. Work completed Sept. 21, 1935. Expenditure during 1935, \$85,169.79.

Andover

May 28, 1935, contract made with the Central Construction Co., of Lawrence, for constructing about 24,876 feet of highway on Lowell Street; the surface consisting of penolithic pavement. The proposal amounted to \$139,642.60. Work completed Oct. 8, 1935. Expenditure during 1935, \$165,131.17.

EXPENDITURES FOR EMERGENCY PUBLIC WORKS CONSTRUCTION

Chapter 365, Acts of 1933

Project	City or Town	Amount
R 1	Lynn-Revere	\$748,303 70
R 4	Agawam	5,776 96
R 5-1	Arlington-Belmont-Lexington	137,676 39
R 5-2	Lexington-Lincoln	218,762 69
R 5 3	Lexington	5,832 82
R 7	Braintree-Quincy	156,268 73
R 8	Brookline	90,555 54
R 12	Lawrence-North Andover	10,811 28
R 13	Otis	21,186 96
R 14	Palmer	9,124 71
R 16	Revere (North Shore Road)	21,400 00
R 17	Saugus	2,427 93
R 22	Blandford-Russell	71,822 05
R 26	Charlemont	328,433 57
R 27	Charlton-Sturbridge	33,916 77
R 29-1	Concord-Lincoln	91,164 65
R 29-2	Concord By-Pass	170,954 63
R 32	Easton-Raynham-Taunton	43,509 85
R 33	Fitchburg-Ashby	62,043 35
R 34	Essex-Gloucester	66,165 69
R 35	Great Barrington	4,250 61
R 38	Hatfield-Northampton	37,794 03
R 39	Revere (Route 1A)	288,146 15
R 40	Richmond	10,125 57
R 43	Sterling-Leominster	37,639 71
R 44	Brimfield-Sturbridge	48,624 77
R 48	Holyoke	156,347 90
R 49	Charlton-East Brookfield	58,069 65
R 51	Braintree-Randolph	131,476 52
R 54	Dennis-Yarmouth	168,840 55
Total		\$3,237,453 73

CHAPTER 464, BOND ISSUE

Class 1 — Cities and Towns

The expenditures during the year in various counties were: —

Barnstable	\$30,161.92	Middlesex	\$310,394.49
Berkshire	83,586.74	Nantucket	3,016.12
Bristol	79,066.63	Norfolk	161,634.80
Dukes	5,024.82	Plymouth	54,498.17
Essex	169,476.38	Suffolk	459,317.51
Franklin	64,756.49	Worcester	259,761.40
Hampden	161,852.02	Engineering	171,757.83
Hampshire	60,892.00		
		Total	\$2,075,197.32

Details of the foregoing expenditures follow:—

Barnstable County.—Barnstable, \$5,668.23; Bourne, \$2,340.10; Brewster, \$2,000; Chatham, \$1,421.39; Dennis, \$3,900.00; Eastham, \$2,100.00; Falmouth, \$——; Harwich, \$1,490.73; Mashpee, \$1,350.00; Orleans, \$901.37; Provincetown, \$1,161.39; Sandwich, \$3,350.00; Truro, \$1,500.00; Wellfleet, \$1,800.00; Yarmouth, \$1,178.71.

Berkshire County.—Adams, \$2,929.45; Alford, \$950.00; Becket, \$2,900.00; Cheshire, \$2,100.00; Clarksburg, \$700.00; Dalton, \$2,028.08; Egremont, \$1,600.00; Florida, \$2,150.00; Great Barrington, \$2,357.43; Hancock, \$1,500.00; Hinsdale, \$1,750.00; Lanesboro, \$2,100.00; Lee, \$1,334.73; Lenox, \$1,594.73; Monterey, \$2,600.00; Mt. Washington, \$1,000; New Ashford, \$550.00; New Marlboro, \$4,250.00; North Adams, \$6,378.93; Otis, \$2,250.00; Peru, \$1,850.00; Pittsfield, \$16,363.34; Richmond, \$1,600.00; Sandisfield, \$3,950.00; Savoy, \$2,800.00; Sheffield, \$3,850.00; Stockbridge, \$1,300.05; Tyringham, \$1,250.00; Washington, \$2,550.00; West Stockbridge, \$1,800.00; Williamstown, \$——; Windsor, \$3,250.00.

Bristol County — Acushnet, \$970.71; Attleboro, \$——; Berkley, \$2,100.00; Dartmouth, \$3,033.46; Dighton, \$970.71; Easton, \$1,525.40; Fairhaven, \$3,068.13; Fall River, \$——; Freetown, \$2,350.00; Mansfield, \$2,010.74; New Bedford, \$32,588.00; North Attleboro, \$2,790.78; Norton, \$2,850.00; Raynham, \$2,250.00; Rehoboth, \$5,450.00; Seekonk, \$1,334.72; Somerset, \$3,068.13; Swansea, \$1,230.71; Taunton, \$9,984.41; Westport, \$1,490.73.

Dukes County.—Chilmark, \$700.00; Edgartown, \$1,144.06; Gay Head, \$——; Gosnold, \$——; Oak Bluffs, \$1,230.71; Tisbury, \$1,300.05; West Tisbury, \$650.00.

Essex County.—Amesbury, \$2,669.44; Andover, \$4,593.52; Beverly, \$11,215.13; Boxford, \$2,650.00; Danvers, \$3,622.82; Essex, \$520.02; Georgetown, \$1,750.00; Gloucester, \$10,209.76; Groveland, \$1,500.00; Hamilton, \$1,404.05; Haverhill, \$14,785.94; Ipswich, \$1,820.07; Lawrence, \$27,179.79; Lynn, \$36,592.16; Lynnfield, \$970.71; Manchester, \$2,773.45; Marblehead, \$4,992.20; Merrimac, \$1,550.00; Methuen, \$5,460.22; Middleton, \$1,500.00; Nahant, \$——; Newbury, \$1,900.00; Newburyport, \$3,622.82; North Andover, \$2,409.43; Peabody, \$6,448.26; Rockport, \$1,525.41; Rowley, \$1,550.00; Salem, \$——; Salisbury, \$901.37; Saugus, \$4,194.84; Swampscott, \$6,396.27; Topsfield, \$918.70; Wenham, \$——; West Newbury, \$1,850.00.

Franklin County.—Ashfield, \$4,000.00; Bernardston, \$2,000.00; Buckland, \$2,250.00; Charlemont, \$2,450.00; Colrain, \$4,200.00; Conway, \$3,600.00; Deerfield, \$3,700.00; Erving, \$554.69; Gill, \$1,700.00; Greenfield, \$7,245.63; Hawley, \$2,450.00; Heath, \$2,650.00; Leverett, \$1,900.00; Leyden, \$1,950.00; Monroe, \$——; Montague, \$2,617.44; New Salem, \$3,250.00; Northfield, \$3,300.00; Orange, \$1,438.73; Rowe, \$2,000.00; Shelburne, \$2,400.00; Shutesbury, \$1,900.00; Sunderland, \$——; Warwick, \$2,800.00; Wendell, \$2,400.00; Whately, \$2,000.00.

Hampden County.—Agawam, \$2,461.43; Blandford, \$3,900.00; Brimfield, \$3,000.00; Chester, \$3,400.00; Chicopee, \$11,041.79; East Longmeadow, \$1,040.04; Granville, \$3,650.00; Hampden, \$1,700.00; Holland, \$1,550.00; Holyoke, \$22,291.58; Longmeadow, \$3,068.12; Ludlow, \$2,201.42; Monson, \$5,050.00; Montgomery, \$1,350.00; Palmer, \$2,288.10; Russell, \$1,022.72; Southwick, \$2,500.00; Springfield, \$73,201.67; Tolland, \$2,000.00; Wales, \$1,250.00; West Springfield, \$6,500.27; Westfield, \$5,234.88; Wilbraham, \$2,150.00.

Hampshire County.—Amherst, \$2,496.10; Belchertown, \$5,450.00; Chesterfield, \$2,950.00; Cummington, \$2,450.00; Easthampton, \$2,790.78; Enfield, \$1,850.00; Goshen, \$1,400.00; Granby, \$2,400.00; Greenwich, \$1,950.00; Hadley, \$2,950.00; Hatfield, \$2,300.00; Huntington, \$2,050.00; Middlefield, \$2,050.00; Northampton, \$7,106.96; Pelham, \$1,550.00; Plainfield, \$2,450.00; Prescott, \$1,950.00; South Hadley, \$2,270.76; Southampton, \$2,800.00; Ware, \$1,577.40; Westhampton, \$2,500.00; Williamsburg, \$2,200.00; Worthington, \$3,400.00.

Middlesex County.—Acton, \$2,900.00; Arlington, \$15,479.30; Ashby, \$2,800.00; Ashland, \$1,900.00; Ayer, \$953.38; Bedford, \$1,800.00; Belmont, \$12,272.50; Billerica, \$2,478.77; Buxboro, \$1,150.00; Burlington, \$1,700.00; Cambridge, \$47,703.29; Carlisle, \$2,100.00; Chelmsford, \$——; Concord, \$——; Dracut, \$3,100.00; Dunstable, \$1,850.00; Everett, \$18,703.43; Framingham, \$9,117.71; Groton, \$1,352.06; Holliston, \$2,500.00; Hopkinton, \$3,300.00; Hudson, \$1,993.41; Lexington, \$5,546.89; Lincoln, \$832.03; Littleton, \$2,100.00; Lowell, \$28,393.17; Malden, \$——; Marlborough, \$——; Maynard, \$1,906.74; Medford, \$21,026.20; Melrose, \$——; Natick, \$5,321.56; Newton, \$39,157.60; North Reading, \$1,650.00; Pepperell, \$3,450.00; Reading, \$4,212.17; Sherborn, \$2,150.00; Shirley, \$2,300.00; Somerville, \$——; Stoneham, \$3,813.49; Stowe, \$2,150.00; Sudbury, \$3,200.00; Tewksbury, \$2,850.00; Townsend, \$3,500.00; Tyngsboro, \$2,000.00; Wakefield, \$5,633.57; Waltham, \$——; Watertown, \$13,901.90; Wayland, \$——; Westford, \$4,250.00; Weston, \$2,496.10; Wilmington, \$——; Winchester, \$7,696.32; Woburn, \$5,702.90.

Nantucket County.—Nantucket, \$3,016.12.

Norfolk County.—Avon, \$554.69; Bellingham, \$2,200.00; Braintree, \$7,020.29; Brookline, \$37,718.88; Canton, \$2,270.76; Cohasset, \$2,461.44; Dedham, \$6,448.27; Dover, \$1,196.05; Foxboro, \$1,542.73; Franklin, \$2,444.10; Holbrook, \$936.04; Medfield, \$2,050.00; Medway, \$2,250.00; Millis, \$2,100.00; Milton, \$9,221.71; Needham, \$6,170.92; Norfolk, \$2,050.00; Norwood, \$6,638.94; Plainville, \$1,600.00; Quincy, \$31,998.65; Randolph, \$1,646.73; Sharon, \$1,594.73; Stoughton, \$2,496.10; Walpole, \$3,709.49; Wellesley, \$9,273.71; Westwood, \$1,282.72; Weymouth, \$11,804.48; Wrentham, \$953.37.

Plymouth County. — Abington, \$1,594.73; Bridgewater, \$1,629.40; Brockton, \$——; Carver, \$3,350.00; Duxbury, \$1,716.07; East Bridgewater, \$1,352.06; Halifax, \$1,700.00; Hanover, \$1,005.38; Hanson, \$1,800.00; Hingham, \$3,796.16; Hull, \$——; Kingston, \$1,126.71; Lakeville, \$2,100.00; Marion, \$1,248.05; Marshfield, \$1,802.74; Mattapoisett, \$953.37; Middleborough, \$2,496.10; Norwell, \$2,350.00; Pembroke, \$2,450.00; Plymouth, \$6,344.26; Plympton, \$1,500.00; Rochester, \$2,500.00; Rockland, \$2,270.76; Scituate, \$3,050.79; Wareham, \$3,224.13; West Bridgewater, \$849.37; Whitman, \$2,288.09.

Suffolk County. — Boston, \$439,799.38; Chelsea, \$13,104.54; Revere, \$——; Winthrop, \$6,413.59.

Worcester County. — Ashburnham, \$3,750.00; Athol, \$3,102.79; Auburn, \$1,681.40; Barre, \$5,500.00; Berlin, \$1,950.00; Blackstone, \$710.70; Bolton, \$2,650.00; Boylston, \$2,000.00; Brookfield, \$1,850.00; Charlton, \$5,500.00; Clinton, \$——; Dana, \$2,150.00; Douglas, \$3,500.00; Dudley, \$3,150.00; East Brookfield, \$950.00; Fitchburg, \$13,624.56; Gardner, \$6,170.92; Grafton, \$3,400.00; Hardwick, \$4,800.00; Harvard, \$2,800.00; Holden, \$3,850.00; Hopedale, \$——; Hubbardston, \$3,750.00; Lancaster, \$2,900.00; Leicester, \$3,300.00; Leominster, \$7,158.96; Lunenburg, \$3,300.00; Mendon, \$1,800.00; Milford, \$4,142.84; Millbury, \$1,698.74; Millville, \$329.35; New Braintree, \$2,450.00; North Brookfield, \$3,450.00; Northborough, \$——; Northbridge, \$2,686.78; Oakham, \$2,250.00; Oxford, \$3,300.00; Paxton, \$1,450.00; Petersham, \$3,500.00; Phillipston, \$2,050.00; Princeton, \$3,600.00; Royalston, \$3,350.00; Rutland, \$3,400.00; Shrewsbury, \$2,374.76; Southborough, \$2,300.00; Southbridge, \$——; Spencer, \$5,000.00; Sterling, \$3,650.00; Sturbridge, \$3,500.00; Sutton, \$4,200.00; Templeton, \$3,150.00; Upton, \$3,000.00; Uxbridge, \$2,132.09; Warren, \$3,550.00; Webster, \$3,068.13; West Boylston, \$1,800.00; West Brookfield, \$2,650.00; Westborough, \$1,265.38; Westminster, \$3,850.00; Winchendon, \$1,577.40; Worcester, \$79,736.60.

CHAPTER 464 — BOND ISSUE

Class 2 — Cities and Towns

The expenditures during the year in various counties were: —

Berkshire	\$11,385.96	Middlesex	\$64,326.80
Bristol	39,547.99	Norfolk	11,157.16
Essex	45,542.79	Plymouth	46,946.44
Franklin	9,274.12	Suffolk	74,579.38
Hampden	17,897.90	Worcester	21,343.60
Hampshire	2.66		
			<hr/>
Total			\$342,004.80

Details of the foregoing expenditures follow: —

Berkshire County. — Adams, \$11,385.96.

Bristol County. — Dartmouth, \$32,579.30; Somerset, \$6,968.69.

Essex County. — Lynn, \$1,350.46; Lynnfield, \$3,087.82; Merrimac, \$11,645.86; Salem, \$20,938.22; Swampscott, \$8,520.43.

Franklin County. — Greenfield, \$9,274.12.

Hampden County. — Agawam, \$7,376.62; West Springfield, \$10,510.64; Westfield, \$10.64.

Hampshire County. — South Hadley, \$2.66.

Middlesex County. — Framingham, \$34,210.58; Natick, \$9,333.93; Newton, \$20,782.29.

Norfolk County. — Dedham, \$11,157.16.

Plymouth County. — Abington, \$9.78; Bridgewater, \$1.06; Hull, \$4,562.97; Middleborough, \$1.06; Rockland, \$23,570.11; Whitman, \$18,801.46.

Suffolk County. — Boston, \$44,010.66; Chelsea, \$176.82; Revere, \$30,391.90.

Worcester County. — Northborough, \$1,368.23; West Boylston, \$9,984.99; Worcester, \$9,990.38.

CHAPTER 464 — BOND ISSUE

Class 3 — Highway Projects under the Hayden-Cartwright bill, so called.

No expenditures.

CHAPTER 464 — BOND ISSUE
Class 4 — Cities and Towns
Maintenance

The expenditures during the year in various counties were: —

Barnstable	\$21,463.09	Hampshire	\$18,548.57
Berkshire	46,569.63	Middlesex	350,578.91
Bristol	143,505.10	Norfolk	73,218.21
Dukes	1,946.26	Plymouth	30,045.23
Essex	159,362.47	Suffolk	37,574.08
Franklin	13,929.36	Worcester	76,771.45
Hampden	15,205.59		
		Total	\$1,393,329.03

Details of the foregoing expenditures follow: —

Barnstable County. — Barnstable, \$1,748.75; Bourne, \$2,632.30; Brewster, \$649.17; Chatham, \$218.18; Dennis, \$793.81; Eastham, \$1,228.25; Falmouth, \$2,000.15; Harwich, \$520.91; Mashpee, \$138.17; Orleans, \$365.71; Provincetown, \$423.02; Sandwich, \$6,123.46; Truro, \$497.43; Wellfleet, \$400.86; Yarmouth, \$3,722.92.

Berkshire County. — Adams, \$74.67; Alford, \$——; Becket, \$3,304.95; Cheshire, \$950.73; Clarksburg, \$1,659.85; Dalton, \$735.45; Egremont, \$502.70; Florida, \$9,634.69; Great Barrington, \$5,007.97; Hancock, \$845.63; Hinsdale, \$1,598.01; Lanesboro, \$1,407.57; Lee, \$1,563.16; Lenox, \$999.50; Monterey, \$——; Mt. Washington, \$——; New Ashford, \$193.70; New Marlborough, \$170.58; North Adams, \$2,602.97; Otis, \$909.78; Peru, \$——; Pittsfield, \$1,647.66; Richmond, \$369.06; Sandisfield, \$903.70; Savoy, \$295.65; Sheffield, \$1,493.34; Stockbridge, \$236.57; Tyringham, \$——; Washington, \$428.81; West Stockbridge, \$32.78; Williamstown, \$3,726.24; Windsor, \$5,273.91.

Bristol County. — Acushnet, \$20,738.01; Attleboro, \$17,679.94; Berkley, \$236.27; Dartmouth, \$1,222.96; Dighton, \$22,703.44; Easton, \$1,866.66; Fairhaven, \$7,950.05; Fall River, \$——; Freetown, \$966.68; Mansfield, \$403.60; New Bedford, \$——; North Attleboro, \$426.62; Norton, \$1,113.66; Raynham, \$7,374.04; Rehoboth, \$8,462.15; Seekonk, \$38,671.05; Somerset, \$6,451.60; Swansea, \$1,149.42; Taunton, \$2,071.76; Westport, \$4,017.19.

Dukes County. — Chilmark, \$490.05; Edgartown, \$475.00; Gay Head, \$368.08; Gosnold, \$——; Oak Bluffs, \$152.73; Tisbury, \$85.75; West Tisbury, \$374.65.

Essex County. — Amesbury, \$834.05; Andover, \$4,105.98; Beverly, \$1,405.46; Boxford, \$——; Danvers, \$13,454.38; Essex, \$213.42; Georgetown, \$——; Gloucester, \$12,459.23; Groveland, \$602.38; Hamilton, \$12,201.99; Haverhill, \$2,700.44; Ipswich, \$9,223.75; Lawrence, \$274.30; Lynn, \$11,136.62; Lynnfield, \$2,161.76; Manchester, \$——; Marblehead, \$——; Merrimac, \$705.27; Methuen, \$1,907.73; Middleton, \$25,676.44; Nahant, \$——; Newbury, \$3,842.24; Newburyport, \$1,614.23; North Andover, \$4,303.54; Peabody, \$8,269.79; Rockport, \$211.85; Rowley, \$1,879.39; Salem, \$13,371.18; Salisbury, \$2,322.76; Saugus, \$14,142.94; Swampscott, \$6,256.99; Topsfield, \$2,269.51; Wenham, \$274.41; West Newbury, \$1,540.44.

Franklin County. — Ashfield, \$489.18; Bernardston, \$794.44; Buckland, \$390.48; Charlemont, \$787.93; Colrain, \$594.31; Conway, \$356.94; Deerfield, \$940.99; Erving, \$920.74; Gill, \$272.37; Greenfield, \$1,541.72; Hawley, \$——; Heath, \$——; Leverett, \$——; Leyden, \$——; Monroe, \$——; Montague, \$1,067.62; New Salem, \$443.58; Northfield, \$1,206.90; Orange, \$630.99; Rowe, \$——; Shelburne, \$1,376.68; Shutesbury, \$489.64; Sunderland, \$1,335.03; Warwick, \$——; Wendell, \$——; Whately, \$289.82.

Hampden County. — Agawam, \$2,635.84; Blandford, \$366.54; Brimfield, \$1,903.48; Chester, \$659.52; Chicopee, \$1,942.44; East Longmeadow, \$340.85; Granville, \$——; Hampden, \$——; Holland, \$——; Holyoke, \$430.91; Longmeadow, \$——; Ludlow, \$——; Monson, \$668.61; Montgomery, \$——; Palmer, \$1,534.19; Russell, \$1,493.16; Southwick, \$113.23; Springfield, \$——; Tolland, \$——; Wales, \$92.99; West Springfield, \$906.47; Westfield, \$1,000.64; Wilbraham, \$1,116.72.

Hampshire County.—Amherst, \$1,016.88; Belchertown, \$828.30; Chesterfield, \$——; Cummington, \$1,680.22; Easthampton, \$749.58; Enfield, \$——; Goshen, \$727.09; Granby, \$1,911.15; Greenwich, \$——; Hadley, \$922.31; Hatfield, \$172.14; Huntington, \$804.89; Middlefield, \$——; Northampton, \$1,415.15; Pelham, \$805.78; Plainfield, \$——; Prescott, \$——; South Hadley, \$2,673.69; Southampton, \$1,383.38; Ware, \$1,681.53; Westhampton, \$——; Williamsburg, \$840.16; Worthington, \$936.32.

Middlesex County.—Acton, \$32,449.11; Arlington, \$589.03; Ashby, \$23,319.88; Ashland, \$18,259.30; Ayer, \$64.69; Bedford, \$——; Belmont, \$343.41; Billerica, \$4,746.96; Boxboro, \$6,818.99; Burlington, \$1,030.40; Cambridge, \$25.93; Carlisle, \$——; Chelmsford, \$4,076.47; Concord, \$20,718.18; Dracut, \$21,713.09; Dunstable, \$——; Everett, \$——; Framingham, \$8,855.07; Groton, \$32,924.84; Holliston, \$12,205.23; Hopkinton, \$——; Hudson, \$3,329.10; Lexington, \$21,202.72; Lincoln, \$4,624.41; Littleton, \$26,200.49; Lowell, \$53.50; Malden, \$——; Marlborough, \$28,593.20; Maynard, \$——; Medford, \$——; Melrose, \$20.80; Natick, \$1,309.53; Newton, \$3,098.22; North Reading, \$651.10; Pepperell, \$28.00; Reading, \$3,476.81; Sherborn, \$——; Shirley, \$738.71; Somerville, \$549.95; Stoneham, \$1,661.92; Stowe, \$——; Sudbury, \$1,564.96; Tewksbury, \$1,062.61; Townsend, \$3,988.57; Tyngsboro, \$10,284.72; Wakefield, \$——; Waltham, \$243.18; Watertown, \$3,720.31; Wayland, \$7,815.52; Westford, \$21,421.17; Weston, \$2,216.36; Wilmington, \$1,615.86; Winchester, \$240.54; Woburn, \$12,726.07.

Norfolk County.—Avon, \$215.54; Bellingham, \$399.03; Braintree, \$7,927.49; Brookline, \$1,665.51; Canton, \$1,864.46; Cohasset, \$508.22; Dedham, \$2,918.68; Dover, \$42.75; Foxborough, \$2,710.42; Franklin, \$446.23; Holbrook, \$8,878.30; Medfield, \$——; Medway, \$——; Millis, \$——; Milton, \$3,590.36; Needham, \$1,797.14; Norfolk, \$109.11; Norwood, \$8,502.80; Plainville, \$1,099.55; Quincy, \$3,358.29; Randolph, \$1,370.30; Sharon, \$380.29; Stoughton, \$4,227.62; Walpole, \$1,897.33; Wellesley, \$4,554.68; Westwood, \$6,601.58; Weymouth, \$4,846.77; Wrentham, \$3,305.76.

Plymouth County.—Abington, \$850.50; Bridgewater, \$595.00; Brockton, \$4,632.36; Carver, \$——; Duxbury, \$1,059.31; East Bridgewater, \$543.46; Halifax, \$——; Hanover, \$6,666.51; Hanson, \$——; Hingham, \$3,287.49; Hull, \$29.02; Kingston, \$756.25; Lakeville, \$1,667.50; Marion, \$954.71; Marshfield, \$442.24; Mattapoisett, \$379.43; Middleborough, \$2,502.41; Norwell, \$121.31; Pembroke, \$330.41; Plymouth, \$828.54; Plympton, \$——; Rochester, \$318.22; Rockland, \$202.90; Scituate, \$991.32; Wareham, \$999.70; West Bridgewater, \$1,186.60; Whitman, \$700.04.

Suffolk County.—Boston, \$9,809.69; Chelsea, \$38.50; Revere, \$27,725.89.

Worcester County.—Ashburnham, \$497.76; Athol, \$671.78; Auburn, \$1,783.17; Barre, \$691.54; Berlin, \$——; Blackstone, \$257.18; Bolton, \$——; Boylston, \$——; Brookfield, \$240.95; Charlton, \$3,087.56; Clinton, \$32.00; Dana, \$——; Douglas, \$171.91; Dudley, \$189.88; East Brookfield, \$300.29; Fitchburg, \$518.55; Gardner, \$288.68; Grafton, \$759.94; Hardwick, \$45.79; Harvard, \$23,776.00; Holden, \$883.56; Hopedale, \$3.80; Hubbardston, \$——; Lancaster, \$2,216.39; Leicester, \$851.82; Leominster, \$1,928.01; Lunenburg, \$649.37; Mendon, \$571.73; Milford, \$322.56; Millbury, \$561.03; Millville, \$65.18; New Braintree, \$44.20; North Brookfield, \$319.50; Northboro, \$1,305.40; Northbridge, \$847.91; Oakham, \$382.09; Oxford, \$683.81; Paxton, \$1,144.43; Petersham, \$799.43; Phillipston, \$575.12; Princeton, \$54.20; Royalston, \$——; Rutland, \$2,268.39; Shrewsbury, \$4,264.93; Southborough, \$2,182.33; Southbridge, \$172.16; Spencer, \$1,044.91; Sterling, \$2,003.09; Sturbridge, \$1,608.25; Sutton, \$614.98; Templeton, \$1,584.39; Upton, \$286.07; Uxbridge, \$1,520.97; Warren, \$898.49; Webster, \$115.77; West Boylston, \$2,200.51; West Brookfield, \$265.94; Westboro, \$2,680.00; Westminster, \$1,478.96; Winchendon, \$553.57; Worcester, \$3,505.22.

CHAPTER 464 — CLASS 4
Miscellaneous Expenditures
Snow Removal

Truck repairs	\$17,030.29	
Truck operation	7,849.79	
Truck plow repairs	25,762.15	
Tractor repairs	12,581.11	
Tractor operation	7,997.44	
Tractor plow repairs	20,486.20	
Snow fence	564.06	
Expenditures under towns	69,793.46	
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		\$162,064.50

Traffic

Direction Signs	\$27,782.68	
Warning signs	19,828.63	
Control signals	21,715.14	
Traffic survey	51,409.32	
Regulatory signs	2,488.76	
White lines	2,080.95	
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		\$125,305.48
Maps and detour bulletins	398.15	
Roadside planting	9,365.50	
Laboratory	4,760.65	
Paint mfg.	1,746.87	
Engineering	130,987.23	
Machinery	103,886.30	
Somerset Bridge	3,344.04	
Newburyport Bridge	11,258.88	
Fairhaven-New Bedford Bridge	5,140.32	
Quincy-Weymouth Bridge	4,028.52	
Geodetic survey	2,432.25	
Grade crossings eng.	1,956.89	
		<hr/>
		\$566,675.58

CHAPTER 464 — BOND ISSUE

Class 5 — Development of Rivers and Harbors

The expenditures during the year 1935 were as follows: —

Boston Harbor

Commonwealth Pier, No. 5	\$16,434.24	
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		\$16,434.24

Outside Boston Harbor

Menamsha Creek-Chilmark	\$23,640.97	
Scituate Harbor	11,491.67	
Manchester Harbor	17,546.79	
Smiths Cove, Gloucester	16,054.53	
Plymouth Harbor	28,143.46	
Onset Bay, Wareham	313.55	
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		\$97,190.97

Total		<hr/>	\$113,625.21
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MAINTENANCE AND REPAIR OF STATE HIGHWAYS

(Section 13, Chapter 81, General Laws)

The expenditures during the year in various counties were: —

Barnstable	\$76,926.63	Hampshire	\$50,116.49
Berkshire	310,169.22	Middlesex	1,162,490.96
Bristol	346,640.59	Nantucket	129.05
Dukes	6,084.61	Norfolk	277,859.90
Essex	605,654.30	Plymouth	158,198.42
Franklin	75,336.64	Suffolk	336,762.91
Hampden	267,955.84	Worcester	296,103.90

Total \$3,970,429.46

Details of the foregoing expenditures follow:—

Barnstable County.—Barnstable, \$4,499.77; Bourne, \$20,546.21; Brewster, \$1,239.55; Chatham, \$1,605.14; Dennis, \$947.73; Eastham, \$2,439.36; Falmouth, \$8,862.98; Harwich, \$901.45; Mashpee, \$1,435.81; Orleans, \$938.25; Provincetown, \$1,723.54; Sandwich, \$8,652.45; Truro, \$2,585.74; Wellfleet, \$1,260.85; Yarmouth, \$19,287.80.

Berkshire County.—Adams, \$1,587.23; Becket, \$10,153.18; Cheshire, \$172,736.79; Clarksburg, \$1,792.80; Dalton, \$2,109.48; Egremont, \$1,540.05; Florida, \$4,586.29; Great Barrington, \$8,278.75; Hancock, \$2,109.67; Hinsdale, \$2,018.16; Lanesborough, \$2,915.70; Lee, \$5,722.41; Lenox, \$2,246.70; New Ashford, \$316.38; New Marlborough, \$19.25; No. Adams, \$50,249.92; Otis, \$1,977.75; Pittsfield, \$4,399.95; Richmond, \$1,416.09; Sandisfield, \$1,748.98; Savoy, \$906.95; Sheffield, \$8,584.02; Stockbridge, \$4,510.63; Washington, \$1,003.60; West Stockbridge, \$154.29; Williamstown, \$13,632.66; Windsor, \$3,451.54.

Bristol County.—Acushnet, \$1,798.45; Attleboro, \$2,508.85; Berkley, \$1,960.35; Dartmouth, \$3,678.09; Dighton, \$38,229.46; Easton, \$5,581.79; Fairhaven, \$9,968.75; Freetown, \$3,982.92; Mansfield, \$2,380.90; North Attleboro, \$3,025.16; Norton, \$6,816.40; Raynham, \$17,175.51; Rehoboth, \$11,830.29; Seekonk, \$28,809.25; Somerset, \$51,479.80; Swansea, \$80,977.66; Taunton, \$15,657.31; Westport, \$60,779.65.

Dukes County.—Chilmark, \$1,427.58; Edgartown, \$1,265.65; Gay Head, \$633.88; Oak Bluffs, \$290.79; Tisbury, \$571.59; West Tisbury, \$1,895.12.

Essex County.—Amesbury, \$3,905.88; Andover, \$15,510.22; Beverly, \$6,531.93; Danvers, \$50,095.18; Essex, \$6,345.22; Gloucester, \$36,915.68; Groveland, \$1,562.01; Hamilton, \$25,599.51; Haverhill, \$5,735.93; Ipswich, \$10,367.35; Lawrence, \$1,284.82; Lynn, \$29,839.32; Lynnfield, \$3,612.29; Merrimac, \$1,613.42; Methuen, \$166,369.48; Middleton, \$55,561.48; Newbury, \$10,518.37; Newburyport, \$6,194.29; North Andover, \$17,165.88; Peabody, \$10,805.69; Rockport, \$702.93; Rowley, \$16,983.86; Salem, \$37,028.13; Salisbury, \$5,844.03; Saugus, \$31,109.30; Swampscott, \$31,503.40; Topsfield, \$4,527.15; Wenham, \$1,709.67; West Newbury, \$10,711.88.

Franklin County.—Ashfield, \$1,478.95; Bernardston, \$1,801.07; Buckland, \$3,910.16; Charlemont, \$5,154.32; Colrain, \$1,007.74; Conway, \$1,685.40; Deerfield, \$32,146.12; Erving, \$3,468.16; Gill, \$1,262.37; Greenfield, \$5,088.45; Montague, \$1,143.77; New Salem, \$1,286.09; Northfield, \$4,204.59; Orange, \$957.34; Shelburne, \$3,794.94; Shutesbury, \$1,665.55; Sunderland, \$2,833.18; Whately, \$2,448.44.

Hampden County.—Agawam, \$8,252.01; Blandford, \$59,069.50; Brimfield, \$6,701.21; Chester, \$2,685.03; Chicopee, \$5,738.48; East Longmeadow, \$326.94; Holland, \$40.51; Holyoke, \$1,233.45; Monson, \$1,003.18; Palmer, \$5,965.57; Russell, \$2,723.33; Southwick, \$144,236.98; Springfield, \$2,581.25; Tolland, \$107.07; Wales, \$653.33; West Springfield, \$2,025.63; Westfield, \$2,424.39; Wilbraham, \$2,187.98.

Hampshire County.—Amherst, \$2,689.88; Belchertown, \$1,674.52; Cummington, \$3,914.32; Easthampton, \$1,261.93; Goshen, \$2,995.94; Granby, \$3,260.71; Hadley, \$2,202.18; Hatfield, \$3,762.62; Huntington, \$4,251.89; Northampton, \$6,370.52; Pelham, \$543.71; South Hadley, \$6,411.68; Southampton, \$3,627.66; Ware, \$4,410.63; Williamsburg, \$1,810.24; Worthington, \$928.06.

Middlesex County.—Acton, \$47,302.46; Arlington, \$9,360.20; Ashby, \$24,798.27; Ashland, \$29,572.91; Ayer, \$855.46; Bedford, \$164.05; Belmont, \$1,271.49; Billerica, \$10,937.97; Boxborough, \$3,705.41; Burlington, \$16,427.63; Cambridge, \$1,008.20; Chelmsford, \$24,933.15; Concord, \$48,025.81; Dracut, \$311,104.39; Framingham, \$53,202.08; Groton, \$13,763.65; Holliston, \$43,348.11; Hudson, \$16,023.71; Lexington, \$28,257.06; Lincoln, \$19,963.20; Littleton, \$55,591.19; Lowell, \$94,946.35; Marlborough, \$48,004.68; Medford, \$910.73; Melrose, \$603.70; Natick, \$6,347.93; Newton, \$24,469.11; North Reading, \$1,393.27; Pepperell, \$2,502.64; Reading, \$3,690.72; Shirley, \$996.66; Somerville, \$605.73; Stoneham, \$831.28; Sudbury, \$18,731.39; Tewksbury, \$21,406.68; Townsend, \$3,630.42; Tyngsboro, \$20,772.11; Waltham, \$712.92; Watertown, \$1,335.41; Way-

land, \$10,986.68; Westford, \$45,352.27; Weston, \$13,812.07; Wilmington, \$8,-488.55; Winchester, \$18,443.37; Woburn, \$53,899.89.

Nantucket County.—Nantucket, \$129.05.

Norfolk County.—Avon, \$690.18; Bellingham, \$765.74; Braintree, \$28,032.98; Brookline, \$9,177.77; Canton, \$44,592.84; Cohasset, \$1,598.37; Dedham, \$11,-848.59; Dover, \$474.84; Foxboro, \$1,879.48; Franklin, \$899.97; Holbrook, \$2,-852.26; Milton, \$23,425.97; Needham, \$5,260.39; Norfolk, \$375.79; Norwood, \$29,701.74; Plainville, \$2,877.42; Quincy, \$3,918.14; Randolph, \$11,559.80; Sharon, \$544.80; Stoughton, \$37,521.06; Walpole, \$3,906.43; Wellesley, \$12,-328.66; Westwood, \$8,463.45; Weymouth, \$28,903.06; Wrentham, \$6,260.17.

Plymouth County.—Abington, \$2,770.76; Bridgewater, \$1,927.05; Brockton, \$2,605.64; Duxbury, \$1,770.56; East Bridgewater, \$1,517.17; Hanover, \$6,309.72; Hingham, \$7,768.38; Hull, \$385.44; Kingston, \$870.13; Lakeville, \$4,828.24; Marion, \$1,155.01; Marshfield, \$3,131.04; Mattapoisett, \$2,558.70; Middleborough, \$6,526.87; Norwell, \$507.11; Pembroke, \$1,109.77; Plymouth, \$3,185.54; Rochester, \$869.26; Rockland, \$532.57; Scituate, \$5,364.61; Wareham, \$99,-105.11; West Bridgewater, \$2,798.90; Whitman, \$600.84.

Suffolk County.—Boston, \$164,456.94; Chelsea, \$8,964.86; Revere, \$163,341.11.

Worcester County.—Ashburnham, \$2,002.50; Athol, \$1,121.06; Auburn, \$10,-743.60; Barre, \$3,032.47; Blackstone, \$534.74; Brookfield, \$644.92; Charlton, \$10,675.10; Douglas, \$298.47; Dudley, \$2,221.09; East Brookfield, \$813.50; Fitchburg, \$3,461.29; Gardner, \$1,281.43; Grafton, \$3,786.55; Hardwick, \$279.44; Harvard, \$27,202.80; Holden, \$2,604.35; Hopedale, \$119.75; Lancaster, \$1,822.46; Leicester, \$5,224.93; Leominster, \$3,890.62; Lunenburg, \$3,258.19; Mendon, \$1,-154.37; Milford, \$1,560.66; Millbury, \$30,713.89; Millville, \$223.24; New Braintree, \$38.26; North Brookfield, \$474.76; Northborough, \$9,865.83; Northbridge, \$3,833.88; Oakham, \$475.42; Oxford, \$4,999.05; Paxton, \$2,944.26; Petersham, \$3,743.03; Phillipston, \$514.36; Princeton, \$320.98; Rutland, \$30,339.58; Shrewsbury, \$7,491.08; Southborough, \$5,720.66; Southbridge, \$248.24; Spencer, \$965.69; Sterling, \$40,312.60; Sturbridge, \$6,552.87; Sutton, \$1,593.53; Templeton, \$20,489.93; Upton, \$1,221.87; Uxbridge, \$2,252.65; Warren, \$2,471.27; Webster, \$1,205.62; Westborough, \$8,083.59; West Boylston, \$7,721.09; West Brookfield, \$931.00; Westminster, \$4,233.83; Winchendon, \$1,579.01; Worcester, \$6,808.54.

Miscellaneous expenditures are as follows:—

	<i>Snow Removal</i>	
Truck repairs	\$8,035.67	
Truck operation	49,130.96	
Truck plow repairs	57,880.92	
Tractor repairs	3,387.34	
Tractor operation	47,737.30	
Tractor plow repairs	50,267.68	
Snow fence	896.60	
Expenditures under towns	722,979.84	
		<hr/>
		\$940,316.31
	<i>Traffic</i>	
White lines	\$5,898.55	
E. R. A.	5,949.20	
Warning signs	18,807.79	
Direction signs	41,170.47	
Regulatory signs	2,134.03	
Control signals	37,898.67	
Traffic survey	28,287.22	
Traffic permits	322.05	
		<hr/>
		\$140,467.98

Bridges

Somerset Bridge	\$9,988.38	
Newburyport Bridge	4,691.92	
Fairhaven-New Bedford Bridge	11,743.88	
Quincy-Weymouth Bridge	19,834.72	
		<hr/>
		\$46,258.90
Detour bulletins		2,412.64
Geodetic survey		3,419.56
Safety advertising		2,000.00
		<hr/>
Total of miscellaneous expenditures		\$1,134,875.39

Summary of Maintenance Expenditures

Maintenance and repair of State Highways	\$3,970,429.46
Miscellaneous expenditures	1,134,875.39
	<hr/>
Total	\$5,105,304.85

REMOVAL OF SNOW AND ICE FROM STATE HIGHWAYS

The authority of the Department relative to the removal of snow and ice from State highways has been provided by section 19, chapter 81, General Laws, as amended.

The co-operation of the Department with officers of cities, towns and counties, in keeping open and reasonably passable for vehicles during the winter months such highways as may be selected by the Department is provided for in section 11, chapter 84, General Laws, as amended.

In accordance with the provisions of these laws, the Department selected 1,848 miles of highways on the principal routes of travel, 1,668 miles of which are State highways and 180 miles town highways.

The work of snow removal on these routes is performed in a large part by the trucks and tractors owned and operated by the Department, but certain towns and cities, by agreement with the Department, perform part of the work of snow removal on the portions of the routes within their limits. All of this work is done under the direction and supervision of the Department.

The expenditures by the Department for snow removal during the year under the provisions of both the above-mentioned laws amounted to a total of \$1,102,380.81, which includes the cost of maintenance and repair of the equipment, actual cost of plowing and purchase of materials, such as calcium chloride and sand for use on icy conditions of the road surfaces.

TRAFFIC SIGNS, LIGHTS, MARKINGS, SIGNAL SYSTEMS AND REGULATIONS

The work of bringing about uniformity in traffic signs, lights, markings, signal systems and regulations as provided by Chapter 85, Section 2 and Chapter 89, Sections 8 and 9 of the General Laws, Tercentenary Edition, has been carried on by the Department of Public Works as in previous years.

Under the provisions of these statutes certain duties are placed upon the Department in relation to the erecting of these traffic signs, etc., and particular jurisdiction is granted over like signs, etc., erected by others.

In the first instance, the Department is required to erect on all numbered routes such signs, etc., as it may deem necessary for promoting the public safety and convenience. It may also, in its discretion, designate any way as a "Through Way."

TRAFFIC SIGNS, SIGNALS, ETC., ERECTED BY DEPARTMENT

Accordingly, the Department has, during the past year, erected those signs, etc., and designated such "Through Ways" as are shown in the table below:

Traffic signals	20
Traffic beacons	24
Traffic signs	18,241
Traffic markings (in miles)	544
Through ways	3

The erection or designation of the foregoing was based upon accident analyses, traffic counts and speed checks. It is only through a close study of these that the need for warning or control can be accurately gauged.

DIRECTIONAL SIGNS AND ROUTE MARKERS ERECTED BY DEPARTMENT

Still other signs have been erected under the provisions of the first-named chapter. These are known as directional signs. Posted at or within intersections, these serve to direct the motorist to adjacent, contiguous and even remote towns.

Travel has been further facilitated by the opening of new routes and the marking of these with button signs which notify the motorist upon which route he is traveling.

The fabricating and painting of these signs are done at the Department's traffic shop.

TRAFFIC CONTROL SIGNALS, SIGNS AND REGULATIONS APPROVED BY DEPARTMENT

The provisions of the several chapters already referred to also make the validity of regulations made, or signs, etc., erected, by cities and towns upon ways within their control, dependent upon the written approval of the Department of Public Works. The same sanction is required for Through Ways which may be designated by these municipalities.

As a means of aiding the municipalities in this respect, the Department assigns its engineers to make studies, and to give advice to those cities and towns which desire to control vehicular traffic through the medium of regulations and signs.

This resulted during the past year in the Department's approving the following traffic control features:

Traffic signals	17
Traffic beacons	3
Traffic signs and markings	15
Traffic rules and regulations	98
Isolated stop signs	132
Through ways	8
Safety zones	1

ROADSIDE MAINTENANCE AND DEVELOPMENT

Roadside maintenance as related to the care and planting of trees and other growth on the areas within the highway layouts and adjacent to the traveled surface of State highways has been one of the activities of this Department for over thirty-nine years. This work has been developed more rapidly during recent years because it has become recognized that systematic and intelligent control and development of all features of the roadside conditions are of value not only from the point of view of attractiveness in appearance but as a safety factor as well.

The Department has organized and trained a group of men under competent supervision to have charge of this work, not only for the removal and trimming of trees, brush and undesirable growth, but also for the selection and planting of new growth suitable for the locations. The removal of trees and brush that may obstruct vision at curves, intersections or other points on the highway is done to insure that operating conditions shall be as safe as possible and unnecessary growth is cleared out in order to afford attractive vistas at many scenic locations. For the protection of the roadside trees the Department has maintained a corps of inspectors to supervise the trimming that may be necessary for the construction of light and power transmission lines. In connection with this work a Nursery is maintained at Sudbury where most of the trees and shrubs for use on the highways of Massachusetts are grown and made available for use by the Department. Strict supervision of the tree trimming by the Public Service Corporations is maintained, thus preserving the natural beauty of our roadsides as much as possible and still allowing the Public Service Corporations to extend their services.

During the year planting has been done as follows:

3,710 trees	2,229 evergreens
7,419 shrubs	950 small pines
1,997 vines	

Through co-operation with the United States Bureau of Public Roads, Federal funds under the provisions of the National Recovery Act have been made available for planting along State highways at locations selected and approved in the towns of Lenox, Sheffield, Northborough, Natick and Framingham.

Also, the Department has acted as sponsor for roadside beautification projects carried out with Federal funds made available under the Federal Emergency Relief Administration of Massachusetts.

The Department submitted a total of 263 projects for roadside beautification along the State highways throughout the Commonwealth.

SIDEWALKS ALONG STATE HIGHWAYS

State Bond Issue and Federal W.P.A. Allotments

The Bond Issue legislation, Chapter 464, Acts of 1935, authorized the expenditure of \$4,000,000 for sidewalk construction along State highways, and acting under the authority of this Act, the Department has requested the Federal Government to co-operate in this work, and projects have been submitted by the Department to the Works Progress Administration for its approval.

It is intended that the Federal Government will undertake the grading and drainage, and the Commonwealth will provide the hard surface and curbing for these sidewalks. The Department has in progress at the end of the year, work totalling 44 miles of sidewalks at an expenditure to the end of this year amounting to \$310,162.64.

FARM-TO-MARKET ROADS

The Department was also sponsor for the construction and improvement of the so-called Farm-to-Market roads, under the provision of the Works Progress Administration. The projects begun during the latter part of the year total 46, covering a total of 55 miles of road.

FEDERAL AID IN CONSTRUCTING HIGHWAYS

Statements as to the acts of Congress and of the Massachusetts Legislature with respect to co-operation between the United States and the State of Massachusetts in the construction and maintenance of highways, including the Federal Highway Act approved November 9, 1921, may be found in the annual reports for this Department for the years 1920-1927, inclusive.

A detailed statement of Federal Aid allotments and projects for Massachusetts appears in the Department of Public Works Report for the fiscal year 1933. Additions or alterations for the fiscal years 1934 and 1935 and a summary of the several allotments to date appear as follows:

Total amount of regular Federal Aid for the period from June 30, 1916, to June 30, 1933	\$18,523,440.00
In addition to the above, allotments were made as follows:	
1931 "Federal Emergency Advance Funds"	1,141,460.00
1932 "Federal Emergency Relief and Construction Act"	1,716,612.00
1933 "National Recovery Funds"	6,597,100.00
1934 "Hayden-Cartwright Bill" (Act of June 18, 1934)	3,350,474.00
Emergency Relief Appropriation Act of 1935	
Hayden-Cartwright Amendment	\$1,741,877.00
Works Program—Highways	3,262,885.00
Works Program—Grade Crossings	4,210,833.00
	<hr/>
	9,215,645.00
Total amount of Federal Allotments to date	\$40,544,731.00
(This includes all types of Federal Aid)	

There were thirteen (13) projects prepared in addition to those shown in the Report of the Department of Public Works for 1934. The length of Federal Aid

Road and Bridge projects in this State, from the commencement of work of this character to November 30, 1935, inclusive, is 1,076.777 miles, an increase of 34.060 miles over 1934. In addition to this there were seven (7) landscaping (roadside improvement) projects prepared totaling 8.670 miles. These were all on old Federal Aid projects.

The total length of Federal Aid projects (1,076.777 miles) divided according to the various counties is as follows:

Barnstable	100.820	Hampshire	54.300
Berkshire	133,254	Middlesex	107.647
Bristol	87.219	Norfolk	88.393
Dukes	3.117	Plymouth	108.179
Essex	87.360	Suffolk	4.344
Franklin	54.796	Worcester	181.077
Hampden	66.271		

PROJECTS FINANCED FROM 1933 NATIONAL RECOVERY FUNDS AND REGULAR
FEDERAL AID FUNDS RELEASED FROM COMPLETED PROJECTS
SHEET 1

No.	Town-City	Mileage	Reg. Fed. Aid	Nat. Rec. Funds	Total Funds	Amount Received	Balance
NRH 56	Stoughton	2.188	-	\$117,194 77	\$117,194 77	\$117,194 77	-
NRH 57(2)	Winchester	1.031	\$12,600 00	12,746 42	25,346 42	25,346 42	-
NRM 57(1)	Woburn	1.995	14,100 00	14,140 19	28,240 19	28,240 19	-
NRH 57-B	Winchester	0.885	14,800 00	18,170 72	32,970 72	32,970 72	-
NRH 78	Burlington	3.759	22,500 00	22,671 06	45,171 06	45,171 06	-
NRH 89-A	Easton	1.553	-	38,908 87	38,908 87	38,908 87	-
NRH 89-C	Easton	1.392	-	40,851 25	40,851 25	40,017 36	-
				(\$833 89 Released)			
NRM 126A	Newburyport	1.361	24,976 16	547,399 77	572,375 93	500,023 15	4,975 23 F A 67,377 55 NR
NRM 130B	Auburn	0.443	-	105,602 95	105,602 95	87,148 83	18,454 12
NRM 131C	Springfield						
	(Force Act.)	3.422	-	207,919 56	207,919 56	207,487 36	-
				(\$432 20 Released)			
NRH 138B	Chester	0.307	-	52,686 97	52,686 97	41,223 00	11,463 97
NRH 143B	Fairhaven	0.726	-	64,430 41	64,430 41	64,430 41	-
NRM 170C	Quincy-						
	Weymouth						
	(Contracts 1, 2						
	and 3)	0.749	-	1,883,586 65	1,883,586 65	1,641,702 46	241,884 19
NRH 172B	Sterling-West						
	Boylston (In-						
	cludes Traffic						
	Signals)	4.337	96,500 00	124,037 32	220,537 32	220,537 32	-
NRH 173C	Lanesboro*	0.347	8,000 00	9,983 98	17,983 98	17,983 98	-
NRM 173D	Pittsfield*	1.462	23,000 00	30,896 49	53,896 49	53,896 49	-
NRH 174B	Scituate-						
	Marshfield	1.168	-	150,757 25	150,757 25	121,745 19	29,012 06
NRH 184A	Charlton	2.848	33,900 00	36,210 73	70,110 73	68,675 70	-
				(\$1,435 03 Released)			
NRH 184C	Charlton-						
	Oxford	2.609	20,523 83	38,145 29	58,669 12	54,871 55	-
				(\$3,797 57 Released)			
NRH 188F	Ashby-Townsend	4.023	16,435 81	117,531 69	133,967 50	133,967 50	-
NRH 189E	Mattapoisett						
	(Force Act.)	1.583	30,000 00	80,642 31	110,642 31	110,642 31	-
NRH 189F	Wareham	1.556	25,000 00	32,224 03	57,224 03	57,224 03	-
NRH 194B	Templeton	3.002	36,200 00	41,283 82	77,483 82	58,831 75	4,522 75 F A 14,071 86 NR
				(\$57.46 Released from NRH Funds)			
NRH 199C	Newbury*	3.047	44,000 00	46,975 44	90,975 44	90,975 44	-
NRM 235B	Brookline-						
	Newton	1.089	-	210,478 94	210,478 94	201,168 84	9,310 10
NRH 240B	West Boylston	0.594	7,200 00	7,263 08	14,463 08	14,463 08	-
NRM 241A	East Boston-						
	Revere	2.294	-	713,586 36	713,586 36	618,514 83	95,071 53
NRM 241B	Revere	1.044	-	250,293 28	250,293 28	216,318 30	33,974 98
NRM 242A	Arlington-						
	Belmont-						
	Cambridge	1.557	-	599,758 24	599,758 24	517,097 58	82,660 66
NRH 243A	Amesbury	0.795	17,984 24	21,836 51	39,820 75	39,820 75	-
NRM 244A	Boston						
	(Hyde Park)	0.296	-	37,926 57	37,926 57	37,926 57	-
NRS 245A	Huntington	5.313	-	144,633 69	144,633 69	144,633 69	-
NRS 246	Conway-						
	Deerfield	6.190	-	235,351 71	235,351 71	197,522 80	37,828 91
NRS 247	Otis	3.738	-	102,613 44	102,613 44	93,245 10	9,368 34
NRM 248A	North Adams	0.813	-	176,360 52	176,360 52	176,360 52	-
NRM 249	Worcester	0.225	-	104,345 23	104,345 23	58,667 06	45,678 17
	Totals	69.741	\$447,720 04	\$6,436,445 51	\$6,884,165 55	\$6,171,954 98	\$705,654 42
	(Total Amount Released		\$6,556 15)				

* These projects were not active in 1935. They were complete and final payment received as of November 30, 1934.

STATEMENT OF PROJECTS DONE UNDER THE FEDERAL EMERGENCY RELIEF AND CONSTRUCTION ACT

(These were partly financed by Regular Federal Aid)

No	Town-City	Mileage	Reg. Fed. Aid	Emerg. Con. Fund	Total	Amount Received	Balance
E-12	Ipswich*	2.081	\$16,000 00	\$27,939 83	\$43,939 83	\$43,939 83	-
E-21-A	Hancock-Pittsfield*	2.773	14,000 00	112,866 39	126,866 39	126,866 39	-
E-21-B	Hancock*	1.098	11,000 00	61,965 98	72,965 98	72,965 98	-
E-122-F	Barnstable-Yarmouth*	2.395	20,000 00	61,462 14	81,462 14	81,462 14	-
E-134-D	Oakham	2.656	20,000 00	44,528 59	64,528 59	64,528 59	-
E-170-A	Cohasset-Hingham	3.151	34,273 54	225,038 35	259,311 89	259,311 89	-
E-170-B	Cohasset-Seituate	5.808	50,000 00	149,194 29	199,194 29	199,194 29	-
E-177-D	Yarmouth*	4.818	30,000 00	81,138 24	111,138 24	111,138 24	-
E-211-D	Wellesley (West)*	2.272	40,000 00	203,119 63	243,119 63	243,119 63	-
E-211-E	Wellesley (Ctr.)*	1.108	70,000 00	312,096 18	382,096 18	382,096 18	-
E-235-A	Wellesley (East)*	1.360	35,000 00	91,952 50	126,952 50	126,952 50	-
E-236	Lakeville-Middleboro						
	Raynham-Taunton	6.344	10,000 00	211,797 81	221,797 81	221,797 81	-
E-237-A	Oxford-Webster*	3.374	30,000 00	99,299 97	129,299 97	129,299 97	-
E-238-B	Belchertown*	2.812	20,000 00	34,212 10	54,212 10	54,212 10	-
	Totals	42.050	\$400,273 54	\$1,716,612 00	\$2,116,885 54	\$2,116,885 54	-

* These projects were not active in 1935. They were complete and final payment received as of November 30, 1934.

PROJECTS FINANCED FROM REGULAR FEDERAL AID FUNDS

Note:—The following are projects that were done in 1933 and 1934. There were no projects under this classification in the fiscal year 1935. Final payment received as of November 30, 1934.

No.	Town-City	Mileage	Federal Funds Allotted	Federal Funds Received
F-106-A	Bourne-Falmouth	6.458	\$78,876 03	\$78,876 03
211-C	Framingham-Natick	4.008	100,200 00	100,200 00
218	Canton-Dedham-Westwood	3.947	177,698 65	177,698 65
226-C	Shrewsbury-Worcester	3.015	86,713 23	86,713 23
229-A	Dedham-Westwood-Needham	3.448	96,488 72	96,488 72
229-B	Needham-Wellesley	3.653	93,783 11	93,783 11
231-B	Dedham-Westwood-Norwood	3.566	150,074 96	150,074 96
	Totals	28.093	\$783,834 70	\$783,834 70

1934 LANDSCAPE (ROADSIDE IMPROVEMENT) PROJECTS

Financed from National Recovery Funds

These projects were active in 1934—Final payments received in 1935.

No.	Town-City	Mileage	Nat. Rec. Allott.	Nat. Rec. Funds Received	Amount Released	Balance
NRH 211-C	Framingham-Natick	4.008	\$3,054 85	\$3,048 97	\$5 88	-
NRH 211-D	Wellesley (West)	2.272	2,070 64	2,060 14	10 50	-
NRH 211-E	Wellesley (Center)	1.108	1,886 84	1,878 27	8 57	-
NRH 211-F	Framingham-Natick	1.595	1,579 11	1,573 81	5 30	-
NRH 218	Canton-Dedham-Westwood	3.947	8,182 41	7,550 02	632 39	-
NRH 229-A	Dedham-Westwood-Needham	3.448	2,674 87	2,674 87	-	-
NRH 229-B	Needham-Wellesley	3.653	5,965 89	5,965 89	-	-
NRH 234-A	Lee-Stockbridge	2.010	4,561 38	4,234 25	327 13	-
NRH 235-A	Wellesley (East)	1.360	3,703 97	3,675 74	28 23	-
NRH 235-C	Wellesley (East)	0.463	510 13	505 88	4 25	-
NRM 235-D	Newton	2.757	5,562 67	5,511 78	50 89	-
	Totals	26.621	\$39,752 76	\$38,679 62	\$1,073 14	-

1935 LANDSCAPE (ROADSIDE IMPROVEMENT) PROJECTS
Financed from National Recovery Funds

No.	Town-City	Mileage	Funds Alloted	Funds Received	Balance
NRH 98	Sheffield	3.052	\$540 10	-	\$540 10
NRH 114	Lenox	2.407	8,441 12	-	8,441 12
NRH 137-C	Sheffield	1.532	2,110 40	-	2,110 40
NRH 147-A	Lenox	0.773	797 50	-	797 50
NRH 211-A	Northboro	0.303	12,300 25	-	12,300 25
NRH 211-F	Frammingham	0.142	2,678 64	-	2,678 64
NRH 211-C	Natick	0.151	5,483 00	-	5,483 00
Note:—All of the above projects are on old Federal Aid projects.					
	Totals	8.360	\$32,351 01	-	\$32,351 01

1935 PROJECTS FINANCED UNDER THE HAYDEN-CARTWRIGHT BILL

No.	Town-City	Mileage	Allotment	Amount Received	Balance
NRM 69-B	Haverhill	0.875	\$43,493 83	\$39,723 96	\$3,769 87
NRM 91	Lowell*	0.968	52,248 24	38,599 70	13,648 54
NRH 73	Southwick	6.874	134,566 63	114,874 35	19,692 28
NRH 125-C	Bourne-Wareham*	1.417	146,040 32	103,391 93	42,648 39
NRH 134-E	Rutland	0.833	19,155 95	-	19,155 95
NRM 155-C	Westfield	0.677	54,864 97	47,260 40	7,604 57
NRH 173-E	Cheshire	2.200	156,661 28	118,388 20	38,273 08
NRH 176-B	Bourne*	1.509	85,632 47	66,900 10	18,732 37
NRM 235-E	Boston-Brookline	0.079	390,380 10	-	390,380 10
NRS 247-B	Otis-Blandford	3.508	67,036 95	55,273 70	11,763 25
NRH 250	Dracut-Methuen*	5.941	210,617 41	NR 206,617 41	4,000 00
			51,821 58	FA 50,821 58	1,000 00
NRH 251-A	Dedham* (Not including Sidewalks)	1.060	210,346 34	185,698 95	24,647 39
NRM 251-B	Boston* (Not Including Sidewalks)	0.656	117,675 52	89,555 40	28,122 12
NRS 252	Blandford	1.952	53,368 79	51,919 51	1,449 28
NRS 253	Billerica-Chelmsford (Not Including Sidewalks)	2.835	88,679 59	78,839 90	9,839 69
NRS 254	Athol-Orange	2.847	156,859 56	-	156,859 56
NRS 255	Andover (Not Including Sidewalks)	4.711	157,718 15	152,718 15	5,000 00
NRH 256-A	Milbury	2.075	406,101 72	-	406,101 72
NRS 257	Montague	4.570	313,669 92	-	313,669 92
	Totals	45.587	\$2,916,939 32	\$1,400,581 24	\$1,516,358 08

* These projects were listed as active projects in the report of November 30, 1934, and were included in the Federal Aid mileage added in the fiscal year 1934.

BRIDGES

During the year the Department has prepared designs and plans for, and done other work relating to, bridges throughout the Commonwealth. The various cities and towns, the localities therein, the character of the structure and other details are as follows:

BRIDGES AND STRUCTURES BUILT OR CONTRACTED FOR

Cities and Towns, Locality and Character of Structure

- Athol—Seven 24-foot spans, reinforced concrete beams on reinforced concrete pile trestle, total length 168 feet, 40-foot roadway, 5-foot sidewalk, over Millers River. New road.
- Boston—At Brookline line over Muddy River reinforced concrete arch box culvert, 15-foot span.
- Boston—Jamaicaway over Huntington Avenue, one 110-foot 6-inch span steel rigid frame with stone facing.
- Brookline—15-foot reinforced concrete arch culvert, over Muddy River.
- Cheshire—North Street over Bassett Brook, one 12-foot span, reinforced concrete arch.
- Dartmouth—Padanaram Bridge over Apponaganset River, 4 spans at 25 feet, 6 spans at 26 feet, 9 inches, 1 swing draw span with 30-foot openings; total length, 417 feet, 9 inches.

- Dedham — Providence Turnpike over Wigwam Brook, 10-foot span, reinforced concrete culvert.
- Dedham — Providence Turnpike over Mother Brook. Four 22-foot spans reinforced concrete beams, total length 96 feet.
- Hadley — Bay Road over Fort River, 8 spans at 15 feet, 6 inches, total length 126 feet, reinforced concrete slab on timber piles.
- Holyoke — Northampton Street, under tracks of N. Y., N. H. & H. R. R., 1 span, 86 feet, through girder.
- Lee — Washington Mountain Road over Brook, one 33-foot span steel stringer with reinforced concrete floor.
- Malden — Medford Street over Malden River, trunnion bascule drawbridge with steel stringer approach, span 52 feet, 6 inches, clear opening; 66 feet center to center bearings.
- Millbury — Worcester Road over Blackstone River, one 60-foot span steel stringer bridge with reinforced concrete floor.
- Millbury — Worcester Road, over tracks of N. Y., N. H. & H. R. R. One 56 feet, 6 inches steel-beam span; one 25-foot span, two 31-foot spans, one 35 feet, 3 inches span, concrete beams; total length 220 feet.
- Millville — Center Street, over Blackstone River. Steel stringer bridge with reinforced concrete floor; two spans at 30 feet, one span at 60 feet.
- Montague — Montague Road, over tracks of Boston and Maine Railroad and Central Vermont Railroad, steel plate girder bridge with concrete floor; one span 46 feet, 6 inches, one span 60 feet, one span 81 feet, 4½ inches.
- Montague — Montague Road, under tracks of Central Vermont Railroad. Through plate girder bridge with wrought iron deck, one span 102 feet, 9¾ inches, center to center bearings.
- Montague — Federal Street, over Saw Mill River, one span 31 feet, 1¾ inches, reinforced concrete beam.
- Newbury — Newburyport Turnpike over tracks of Boston and Maine Railroad. Two steel girders at 85 feet, reinforced concrete beam approaches, total length 470 feet.
- Palmer — Whipple's Bridge over Ware River. Steel stringer bridge, two spans at 44 feet, 6 inches.
- Plymouth — Taylor Avenue over outlet from Bartlett's Pond, 20-foot span reinforced concrete slab.
- Walpole — Washington Street over a spur track of Bird & Son, Inc., 22-foot span steel stringer with reinforced concrete floor.
- Waltham — Main Street over tracks of Boston and Maine Railroad. Through truss bridge, one span 115 feet; two spans at 59 feet, 6 inches, steel stringers, total length 240 feet, reinforced concrete floor.
- Weymouth — Main Street over tracks of New York, New Haven & Hartford Railroad. Through plate girder, reinforced concrete floor, 110-foot span.

ALTERATIONS, REPAIRS AND EXTENSIONS TO BRIDGES AND STRUCTURES MADE OR CONTRACTED FOR

- Athol — Over Lake Rohunta Outlet, reinforced concrete arch extension to existing concrete arch, 16-foot span.
- Berkley — At Dighton line, repairs to draw bridge and fender pier over Taunton River.
- Bourne — At Wareham line, Cohasset Narrows Bridge, steel and concrete extension of existing concrete beam bridge.
- Buckland — At Charlemont line, Scott's Bridge over Deerfield River, repairs to abutments and wing walls.
- Dracut — Over Richardson Brook, construction of new fence.
- Fairhaven — At New Bedford line, Brightman Street Bridge, repairs to dolphins and fender piers.
- Greenfield — At Montague line, Montague City Bridge over Connecticut River, repairs to bridge.
- Millville — Center Street over Canal, concrete slab extension to existing stone arch, 21-foot span.

Newbury — Parker River Bridge, removal of pile stubs from river and repair of pier.

Newbury — Newburyport Turnpike over Little River, reinforced concrete beam extension to existing concrete beam bridge, 21-foot span.

CONTEMPLATED BRIDGES AND STRUCTURES
Plans, Studies or Estimates Made

Cities and Towns, Locality and Character of Structure

Amherst — Collège Street under tracks of Central Vermont Railway.

Ashburnham — Elimination of Astor House grade crossing.

Attleboro — Washington Street over New Haven Railroad, Reconstruction.

Ayer — Elimination of grade crossing, West Main Street, over Boston and Maine Railroad.

Beverly — Elimination of grade crossing, Paradise Crossing over Boston and Maine Railroad.

Boston — At Milton line, over Neponset River.

Boston — Porter Street over Boston & Albany Railroad.

Boston — Tunnel Road under Prescott Street.

Boston — Tunnel Road under Bennington Street and under Neptune Street.

Boston — Tunnel Road under Saratoga Street.

Brookline — Highway separation at Brookline Village.

Brookline — Highway separation at Cypress Street.

Canton — At Norwood and Westwood lines over Neponset River, reconstruction.

Canton — Dedham Road over New York, New Haven & Hartford Railroad.

Chesterfield — Reconstruction of existing bridge, First Bridge over Stevens Brook.

Chesterfield — Reconstruction of existing bridge, Second Bridge over Stevens Brook.

Clinton — Lancaster Mills Bridge over Nashua River.

Dartmouth — Westport Factory.

Edgartown — Katama Road over Mattakesett Creek.

Fall River — At Somerset line, Slades Ferry Bridge over Taunton River.

Florida — At Savoy line, Mohawk Trail over Cold River.

Foxborough — Cocasset Street under tracks of New York, New Haven and Hartford Railroad.

Gardner — Mechanic Street over tracks of Boston and Maine Railroad.

Grafton — Shrewsbury Street over tracks of Boston & Albany Railroad.

Hatfield — West Street over Mill River, extension of existing bridge.

Holyoke — Northampton Road, culvert extension.

Hopkinton — At Westborough line, Rocklawn Crossing, over Sudbury River and tracks of Boston & Albany Railroad.

Ipswich — Linebrook Road and Newburyport Turnpike, Grade Separation.

Lawrence — Andover Street under Boston and Maine Railroad.

Lincoln — South Great Road over tracks of Boston and Maine Railroad.

Lunenburg — Leominster Road over tracks of Boston and Maine Railroad.

Lynnfield — Newburyport Turnpike over Circumferential Highway.

Manchester — Proposed road over Manchester Harbor.

Mansfield — Elm Street over tracks of New York, New Haven & Hartford Railroad.

Mansfield — Pedestrian underpass under tracks of New York, New Haven & Hartford Railroad.

Millbury — Worcester Road over West Main Street.

Milton — Proposed road over New York, New Haven & Hartford Railroad.

Monroe — Valley Road over Dunbar Brook. Extension to existing bridge.

New Marlborough — Great Barrington Road over Konkapot Brook.

Newton — At Weston line, Northern Circumferential Highway over Charles River.

Newton — At Wellesley line, over Charles River.

North Adams — Williamstown Road over a brook. Widening existing stone arch.

North Andover — Boxford Road over Mosquito Brook.

Peabody — Lowell Street over Newburyport Turnpike.

Peabody — Circumferential Highway over Lowell Street.

Peabody — Circumferential Highway under Andover Street.
 Pittsfield — Dalton Road over tracks of Boston & Albany Railroad.
 Randolph — North Street over New Haven (Reconstruction).
 Revere — Squire Road extension over Boston and Maine Railroad.
 Rowley — Newburyport Turnpike under Haverhill Street.
 Salisbury — Elm Street over tracks of Boston and Maine Railroad.
 Saugus — Newburyport Turnpike over Saugus River, extension of existing bridge.
 Saugus — Newburyport Turnpike under Main Street.
 Saugus — Newburyport Turnpike under Walnut Street.
 Sharon — Depot Street over New York, New Haven & Hartford Railroad.
 Sheffield — Canaan Road over tracks of New York, New Haven & Hartford Railroad.
 Southwick — State Highway over Webb Brook; reconstruction.
 Sudbury — Boston Post Road over Parmenters Mill Pond; reconstruction.
 Sudbury — Worcester Road over tracks of New York, New Haven & Hartford Railroad.
 Sutton — Worcester Road over Wilkinsonville Road.
 Sutton — Worcester-Providence Road over Central Turnpike.
 Topsfield — Newburyport Pike under Ipswich Road.
 Weston — Circumferential Highway over South Avenue.
 Weston — Circumferential Highway over Aqueduct.
 Williamstown — North Adams Road over Green River; reconstruction.
 Winchendon — New Boston Road over tracks of Boston and Maine Railroad.
 Winchendon — Pequig Crossing, Ashburnham Road over tracks of Boston and Maine Railroad.
 Winchester — Main Street over outlet of Wedge Pond.
 Worcester — Barber's Crossing over tracks of Boston and Maine Railroad.
 Worcester — New Street over Neponset Street.
 Worcester — Pedestrian underpass under tracks of Boston and Maine Railroad near Barber's Crossing.

Examinations, Reports, Estimates, etc., at Request of Counties, Cities and Towns

Amherst — Puffer Mill Bridge over Mill River, estimate for new bridge.
 Amherst — Meadow Street over Mill River, estimate for new bridge.
 Amherst — Meadow Street over Podick Brook, estimate for new bridge.
 Clinton — Lancaster Mills Bridge over Nashua River. Estimate for new bridge.
 Clinton — West Boylston Street over tracks of Boston and Maine Railroad, question of responsibility for maintenance.
 Colrain — Griswoldville Bridge over North River. Estimate for repairs and for new bridge.
 Concord — Red Bridge over Concord River. Estimate for widening.
 Deerfield — At Sunderland line, over Connecticut River. Estimate for new bridge.
 Dudley — At Webster line, Pleasant Street over French River. Estimate for repairs.
 Fall River — Quequechan Street Bridge over Quequechan River. Estimate for a new bridge.
 Gill — At Montague line, over Connecticut River. Estimate for a new bridge.
 Greenfield — At Montague line, White Suspension Bridge. Estimate for a new bridge.
 North Attleborough — Mendon Road over Abbots Run Stream. Estimate for a new bridge.
 North Attleborough — Adamsdale Road over Abbots Run Stream. Estimate for a new bridge.
 Pepperell — Covered Bridge over Nashua River. Estimate for a new bridge.
 Tewksbury — Hall's Bridge over Shawsheen River. Estimate for a new bridge.
 Tewksbury — Bridge Street over Shawsheen River. Estimate for a new bridge.
 Warren — Boston Road over Quaboag River. Estimate for a new bridge.
 Warren — County Road over tracks of Boston & Albany Railroad. Estimate for repairs.

- Warren — Main Street over tracks of Boston & Albany Railroad. Estimate for repairs.
 Westport — Westport Point Bridge. Estimate for a new bridge.
 Winchendon — Old County Road over Millers River. Estimate for a new bridge.

Bridge Plans Submitted and Examined during the Year under the Provisions of Section 35, Chapter 85, of the General Laws. (Tercentenary Edition.)

- Fall River — Plymouth Avenue over Quequechan River. Creosoted timber pile bridge with reinforced concrete deck, 136 feet long.
 Fitchburg — Sawyer Passway connecting First Street Underpass. Foot bridge.
 Fitchburg — Water Street near Hardy's Foundry. Foot bridge.
 Hamilton — Moulton Street over Miles River. Reinforced concrete culvert, 16-foot span.
 Lee — Washington Mountain Road, 33 foot span steel stringer, concrete deck.
 Methuen — Oakland Avenue over tracks of Boston and Maine Railroad; 31-foot road, two 6-foot sidewalks, reinforced concrete beam.
 Pittsfield — East New Lenox Road over Sacket Brook, steel stringers with reinforced concrete floor.

Examinations, Reports, Estimates, etc., by direction of the Department

- Adams — Center Street over Hoosic River, estimate for a new bridge.
 Agawam — At West Springfield line, over Westfield River, estimate for a new bridge.
 Berlin — Bridge Road over Assabet River, estimate for a new bridge.
 Boston — At Chelsea line, Chelsea North Bridge over Mystic River, examination of plans and specifications.
 Charlemont — Hawley Road over Deerfield River, estimate for a new bridge.
 Erving — At Montague line, Millers Falls Bridge over Millers River, estimate for a new bridge.
 Fairhaven — At New Bedford line, Coggeshall Street Bridge over Acushnet River, estimates for repairs and for a new bridge.
 Hadley — At Northampton line, over Connecticut River, estimate for a new bridge.
 Kingston — Elm Street over Jones River, estimate for a new bridge.
 Lynn — At Saugus line, Fox Hill Bridge over Saugus River, investigation for alteration to relieve traffic.

BRIDGE OVER THE MERRIMACK RIVER BETWEEN NEWBURYPORT AND SALISBURY

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1935, was 178. In 1934 the number of such openings was 110; in 1933 the number was 153; and in 1932 the number was 220.

The total expenditure during the year was \$4,691.92.

The total expenditure from 1912 to Nov. 30, 1935, inclusive, was \$199,724.15.

BRIDGE OVER TAUNTON RIVER BETWEEN FALL RIVER AND SOMERSET

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and for operating the draw and maintaining the structure, shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1935, was 1,492. In 1934 the number of such openings was 2,118; in 1933 the number was 1,602; and in 1932 the number was 1,662.

The total expenditure during the year was \$9,988.38.

The total expenditure from 1912 to Nov. 30, 1933, inclusive, was \$411,645.10.

BRIDGE OVER ACUSHNET RIVER BETWEEN CITY OF NEW BEDFORD AND THE TOWN OF FAIRHAVEN

This bridge, which was placed in charge of the Department of Public Works and made a State highway by the provisions of Chapter 406, Acts of 1930, which also provided that the expense of keeping the bridge in good repair for travel, operating the draw and of maintaining the structure, shall be paid by the Commonwealth, was taken over by the Department on June 27, 1930.

The number of draw openings while in charge of the Department beginning June 27, 1930, and ending Nov. 30, 1932, was 1,069. In 1933 the number of such openings was 1,867; in 1934 the number was 1,434; and in 1935 the number was 1,318.

The total expenditure during the year was \$11,743.88.

The total expenditure while in charge of the Department has been \$96,860.63.

BRIDGE OVER WEYMOUTH FORE RIVER BETWEEN THE CITY OF QUINCY AND THE TOWN OF WEYMOUTH

The jurisdiction of the Department of Public Works over this bridge is provided for by Chapter 348, Acts of 1933. The construction of the new bridge at this location required the construction of a temporary bridge to accommodate the vehicular traffic which normally passed over the old bridge.

The number of draw openings at this temporary bridge during the fiscal year ending Nov. 30, 1935, was 2,812.

The expenditure during the year for the maintenance and operation of this temporary bridge was \$19,834.72.

CONSTRUCTION OF TOWN AND COUNTY WAYS (Section 34, Chapter 90, General Laws, Ter. Ed.)

During the year the Department has contracted for work to be done in the towns/cities named in the following table, which also shows the type of road, the length contracted for, and the allotments of contributions by the State, towns/cities and counties:

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD	LENGTH CON-
	State	Town			TRACTED FOR
(FEET)					
<i>Barnstable County</i>					
Barnstable	\$5,400 00	\$2,700 00	\$2,700 00	Gravel and tar mixed in place	6,400
Barnstable	3,825 00	1,912 50	1,912 50	Gravel and tar mixed in place	4,115
Barnstable	1,600 00	800 00	800 00	Gravel and tar mixed in place	1,870
Barnstable	2,975 00	1,487 50	1,487 50	Repairs and oiling	17,750
Barnstable	1,500 00	750 00	750 00	Repairs and oiling	11,250
Brewster	5,100 00	2,550 00	2,550 00	Gravel and oiling	8,850
Chatham	11,050 00	5,525 00	5,525 00	Bituminous concrete	6,633
Falmouth	3,400 00	1,700 00	1,700 00	Gravel and tar mixed in place	3,750
Falmouth	1,250 00	625 00	625 00	Gravel and tar mixed in place	1,050
Harwich	850 00	425 00	425 00	Bituminous concrete	462
Harwich	2,040 00	1,020 00	1,020 00	Repairs and oiling	15,660
Harwich	6,800 00	3,400 00	3,400 00	Bituminous concrete	3,150
Orleans	5,100 00	2,550 00	2,550 00	Bituminous concrete	2,853
Orleans	3,400 00	1,700 00	1,700 00	Bituminous concrete	1,254
Wellfleet	5,100 00	2,550 00	2,550 00	Gravel	3,387
<i>Berkshire County</i>					
Adams	\$2,550 00	\$1,275 00	\$1,275 00	Stone retread	1,550
Adams	10,000 00	3,000 00	3,000 00	Bituminous macadam	3,400
Alford	1,275 00	637 50	637 50	Gravel	900
Alford	500 00	250 00	250 00	Repairs	7,713
Becket	850 00	425 00	425 00	Gravel	600
Becket	3,300 00	1,650 00	1,650 00	Gravel and tar	1,200
Becket	850 00	425 00	425 00	Gravel	500
Becket	2,000 00	1,000 00	1,000 00	Gravel	700
Cheshire	2,720 00	1,360 00	1,360 00	Stone retread and gravel	3,900
Clarksburg	850 00	425 00	425 00	Oiling	13,025
Clarksburg	2,000 00	1,000 00	1,000 00	Gravel and tar	1,200
Dalton	9,500 00	4,750 00	4,750 00	Stone retread	3,200
Egremont	3,200 00	1,600 00	1,600 00	Stone retread	3,950
Florida	1,700 00	850 00	850 00	Gravel	400
Florida	2,000 00	1,000 00	1,000 00	Gravel	1,000
Great Barrington	10,000 00	5,000 00	5,000 00	Bituminous macadam	3,379
Hancock	9,350 00	340 00	1,360 00	Penolithic pavement	2,098
Hancock	900 00	120 00	450 00	Grading and drainage	450
Hinsdale	1,000 00	500 00	500 00	Gravel and tar	1,800
Lanesborough	3,850 00	1,925 00	1,925 00	Gravel and tar	3,200
Lanesborough	2,150 00	1,075 00	1,075 00	Bridge and approaches	—
Lee	3,400 00	1,700 00	1,700 00	Gravel and tar and stone re- tread	2,650

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD	LENGTH CONTRACTED FOR (FEET)
	State	Town			
Lee	\$3,400 00	\$1,700 00	\$1,700 00	Bituminous macadam . . .	1,300
Lee	6,000 00	3,000 00	3,000 00	Grading and drainage . . .	4,850
Lee	2,200 00	1,100 00	1,100 00	Bridge and approaches . . .	—
Lenox	4,250 00	2,125 00	2,125 00	Bituminous macadam . . .	1,750
Lenox	750 00	375 00	375 00	Gravel	1,000
Monterey	2,000 00	1,000 00	1,000 00	Gravel and tar	1,150
Mount Washington	1,500 00	500 00	1,000 00	Gravel	950
New Ashford	425 00	212 50	212 50	Gravel	2,200
New Ashford	1,080 00	540 00	540 00	Gravel	750
New Marlborough	2,550 00	1,275 00	1,275 00	Stone retread and gravel . . .	4,000
New Marlborough	2,550 00	1,275 00	1,275 00	Gravel, gravel and tar and stone retread	8,900
New Marlborough	1,218 00	1,218 00	564 00	Gravel	1,750
New Marlborough	1,482 00	1,482 00	686 00	Gravel	9,000
North Adams	8,500 00	6,000 00	6,000 00	Penolithic pavement	4,438
Otis	2,375 00	1,187 50	1,187 50	Gravel	1,450
Pittsfield	10,625 00	5,312 50	5,312 50	Reinforced cement concrete and bituminous macadam (widening)	2,950
Pittsfield	10,625 00	5,312 50	5,312 50	Penolithic pavement	5,135
Richmond	2,725 00	1,362 50	1,362 50	Gravel	1,400
Richmond	1,062 50	531 25	531 25	Repairs and oiling	13,200
Sandisfield	5,000 00	2,500 00	2,500 00	Gravel	2,300
Savoy	2,000 00	500 00	1,500 00	Gravel	1,180
Sheffield	3,150 00	1,575 00	1,575 00	Stone retread and gravel and tar	3,200
Sheffield	850 00	425 00	425 00	Grading and drainage	850
Stockbridge	7,650 00	3,825 00	3,825 00	Bituminous macadam	2,225
Tyringham	4,000 00	2,000 00	2,000 00	Bridge repairs-gravel and tar . . .	2,550
Washington	6,450 00	1,500 00	2,000 00	Gravel and oiling	14,350
West Stockbridge	2,500 00	1,250 00	1,250 00	Stone retread	5,100
West Stockbridge	3,500 00	1,750 00	1,750 00	Gravel and asphalt emulsion . . .	2,900
Williamstown	6,400 00	4,950 00	1,450 00	Gravel and stone retread . . .	10,964
Williamstown	7,550 00	4,150 00	3,400 00	Bituminous macadam	1,706
Windsor	1,000 00	500 00	500 00	Gravel	700
Windsor	1,000 00	500 00	500 00	Gravel	600
<i>Bristol County</i>					
Acushnet	\$255 00	\$255 00	\$255 00	Repairs and oiling	20,819
Berkley-Dighton	10,500 00	5,000 00	5,000 00	Bridge	—
Berkley	1,000 00	1,000 00	1,000 00	Repairs and oiling	46,936
Dartmouth	36,125 00	21,225 00	21,225 00	Bridge and approaches	—
Easton	5,100 00	5,100 00	—	Gravel and tar	4,965
Fairhaven	850 00	850 00	850 00	Repairs and oiling	28,195
Freetown	850 00	850 00	850 00	Repairs and oiling	62,527
Mansfield	2,210 00	2,210 00	—	Gravel and tar	1,100
Norton	425 00	425 00	425 00	Repairs and oiling	23,194
Raynham	500 00	500 00	500 00	Repairs and oiling	16,080
Rehoboth	680 00	680 00	680 00	Repairs and oiling	49,437
Rehoboth	2,550 00	2,550 00	—	Gravel	1,400
<i>Dukes County</i>					
Tisbury	\$1,000 00	\$1,000 00	—	Repairs and oiling	13,500
<i>Essex County</i>					
Amesbury	\$12,750 00	\$6,375 00	\$6,375 00	Gravel and tar and bituminous macadam-reinforced cement concrete widening	8,963
Amesbury	850 00	850 00	—	Repairs and oiling	17,350
Andover	7,450 00	3,725 00	3,725 00	Grading and drainage	4,250
Andover	1,200 00	1,200 00	—	Repairs and oiling	9,880
Beverly	3,500 00	1,750 00	1,750 00	Bituminous macadam	1,100
Boxford	1,700 00	850 00	850 00	Stone retread	1,100
Boxford	1,700 00	850 00	850 00	Stone retread	900
Boxford	2,000 00	2,000 00	—	Repairs and oiling	25,250
Danvers	1,650 00	1,650 00	—	Repairs and oiling	8,300
Essex	2,000 00	1,000 00	1,000 00	Repairs and oiling	14,244
Georgetown	4,250 00	2,125 00	2,125 00	Gravel and tar	3,800
Georgetown	3,000 00	375 00	1,500 00	Gravel and tar, repairs and oiling	5,000
Gloucester	5,000 00	5,000 00	—	Bituminous macadam	1,800
Groveland	1,500 00	200 00	750 00	Gravel and tar	700
Hamilton	8,500 00	4,250 00	4,250 00	Bituminous macadam	2,450
Haverhill	6,375 00	3,187 50	3,187 50	Bituminous macadam	1,664
Ipswich	5,100 00	2,550 00	2,550 00	Stone retread, repairs and oiling . . .	40,750
Lynn	19,125 00	9,562 50	9,562 50	Bituminous macadam	4,150
Lynnfield	5,100 00	2,550 00	2,550 00	Bituminous macadam	2,400
Lynnfield	1,000 00	500 00	500 00	Bituminous macadam	150
Manchester	24,437 50	4,250 00	13,812 50	Grading and drainage	1,650
Marblehead	11,900 00	5,950 00	5,950 00	Bituminous macadam	5,281
Merrimac	14,025 00	2,125 00	5,100 00	Bituminous macadam	2,292
Methuen	1,000 00	1,000 00	—	Repairs and oiling	6,306
Middleton	1,500 00	1,500 00	—	Repairs and oiling	18,532
Newbury	4,675 00	2,000 00	2,000 00	Penolithic pavement	1,810
Newbury	4,675 00	2,000 00	2,000 00	Gravel and tar	3,285
Newbury	1,500 00	1,500 00	—	Repairs and oiling	24,900

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD	LENGTH CON-TRACTED FOR (FEET)
	State	Town			
North Andover . . .	\$5,950 00	\$2,975 00	\$2,975 00	Bridge-stone and cut-back as-phalt mixed in place . . .	2,550
Peabody	17,000 00	8,500 00	8,500 00	Bituminous macadam . . .	5,650
Peabody	1,870 00	935 00	935 00	Grading and drainage . . .	402
Rockport	2,500 00	1,250 00	1,250 00	Bituminous macadam . . .	115
Swampscott	10,200 00	5,100 00	5,100 00	Repairs and oiling . . .	15,800
Topsfield	4,420 00	680 00	1,700 00	Bituminous concrete . . .	2,554
Topsfield	1,062 50	765 00	531 25	Grading and oiling . . .	1,650
West Newbury	850 00	850 00	—	Grading and drainage . . .	1,600
West Newbury	5,950 00	2,975 00	2,975 00	Repairs and oiling . . .	6,500
West Newbury	1,500 00	200 00	750 00	Stone and cut-back asphalt mixed in place . . .	2,800
West Newbury				Repairs and oiling . . .	8,020
<i>Franklin County</i>					
Ashfield	850 00	425 00	425 00	Gravel	1,585
Ashfield	1,275 00	850 00	425 00	Gravel and tar (widening) . .	400
Bernardston	1,700 00	850 00	850 00	Gravel and tar mixed in place .	1,200
Buckland	3,400 00	2,550 00	850 00	Bridge repairs—gravel and tar mixed in place . . .	2,300
Charlemont	1,700 00	850 00	850 00	Stone and cut-back asphalt mixed in place . . .	6,000
Colrain	2,550 00	1,700 00	850 00	Stone and tar mixed in place . .	2,900
Conway	2,550 00	1,700 00	850 00	Bituminous macadam . . .	1,100
Deerfield	1,700 00	850 00	850 00	Gravel	2,100
Erving	722 50	361 25	361 25	Bituminous macadam . . .	1,000
Erving	977 50	488 75	488 75	Bituminous macadam . . .	700
Gill	1,700 00	850 00	850 00	Gravel	1,000
Greenfield	9,350 00	8,500 00	850 00	Gravel and tar mixed in place .	1,800
Hawley	850 00	425 00	425 00	Bituminous macadam . . .	2,650
Hawley	850 00	425 00	425 00	Gravel	800
Heath	1,700 00	850 00	859 00	Gravel	300
Leverett	1,700 00	850 00	850 00	Gravel and tar	1,500
Leyden	1,700 00	850 00	850 00	Gravel and tar	6,000
Monroe	3,400 00	2,550 00	850 00	Bituminous macadam . . .	1,600
Montague	6,800 00	5,950 00	850 00	Bridge—gravel	850
Montague-Greenfield .	5,000 00	—	5,000 00	Bituminous macadam . . .	2,807
New Salem	1,700 00	850 00	850 00	Bridge repairs	—
New Salem	1,000 00	1,000 00	—	Gravel	1,350
Northfield	1,700 00	850 00	850 00	Repairs and oiling	17,600
Orange	2,550 00	1,700 00	850 00	Bridge and approaches . . .	—
Rowe	2,550 00	1,275 00	850 00	Gravel and tar	1,200
Shelburne	1,275 00	850 00	425 00	Gravel	1,350
Shelburne	1,275 00	850 00	425 00	Bituminous macadam . . .	675
Shutesbury	1,700 00	850 00	850 00	Bituminous macadam . . .	1,500
Sunderland	4,000 00	1,000 00	1,000 00	Gravel and gravel and tar mixed in place . . .	5,532
Warwick	1,700 00	850 00	850 00	Grading and drainage . . .	2,250
Wendell	3,400 00	2,550 00	850 00	Gravel	1,050
Wendell	1,275 00	1,275 00	—	Gravel and gravel and tar mixed in place . . .	3,331
Whately	1,700 00	850 00	850 00	Repairs and oiling	18,480
Whately				Bituminous macadam . . .	1,100
<i>Hampden County</i>					
Agawam	\$12,375 00	\$7,250 00	\$5,125 00	Bituminous macadam . . .	5,256
Agawam	5,000 00	2,500 00	2,500 00	Bituminous concrete . . .	2,900
Agawam	9,000 00	4,500 00	4,500 00	Gravel and tar	12,566
Agawam	637 50	637 50	637 50	Grading and oiling . . .	6,000
Blandford	3,825 00	1,700 00	2,125 00	Gravel and stone retreat . .	4,390
Brimfield	425 00	425 00	425 00	Repairs and oiling . . .	27,082
Brimfield	3,400 00	1,700 00	1,700 00	Grading and drainage . . .	2,550
Brimfield				Gravel and tar mixed in place .	1,700
Brimfield	340 00	340 00	340 00	Bridge abolition	—
Chester	5,950 00	850 00	5,100 00	Stone retreat and gravel . . .	4,350
Chester	2,550 00	425 00	1,912 50	Stone retreat	5,350
East Longmeadow	8,500 00	4,250 00	4,250 00	Bituminous macadam . . .	4,050
East Longmeadow	425 00	425 00	425 00	Gravel and tar mixed in place .	3,200
Granville	5,100 00	2,550 00	2,550 00	Bituminous macadam . . .	1,400
Hampden	2,550 00	1,020 00	1,530 00	Bituminous macadam (widening) and oiling . . .	5,000
Hampden	1,700 00	680 00	1,020 00	Bituminous macadam . . .	1,000
Hampden	425 00	425 00	425 00	Repairs and oiling . . .	10,000
Holland	3,400 00	850 00	2,720 00	Grading and drainage . . .	1,850
Holland				Gravel and tar mixed in place .	2,600
Holyoke	425 00	425 00	425 00	Repairs and oiling . . .	18,600
Holyoke	2,975 00	1,487 50	1,487 50	Bituminous macadam . . .	1,900
Longmeadow	6,375 00	4,250 00	2,125 00	Gravel and cut-back asphalt mixed in place . . .	3,800
Ludlow	3,400 00	1,700 00	1,700 00	Bituminous macadam . . .	1,750
Ludlow	4,000 00	2,000 00	2,000 00	Bituminous macadam . . .	2,000
Monson	3,400 00	1,700 00	1,700 00	Gravel and tar mixed in place .	2,300
Monson	425 00	425 00	425 00	Repairs and oiling . . .	3,693
Montgomery	2,550 00	850 00	2,550 00	Gravel	1,575
Palmer	17,800 00	15,038 10	15,000 00	Bituminous macadam . . .	9,825
Palmer	4,000 00	3,000 00	3,000 00	Bridge and approaches . . .	—

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD	LENGTH CONTRACTED FOR (FEET)
	State	Town			
Palmer	\$850 00	\$425 00	\$425 00	Granite curbing	937
Russell	425 00	425 00	425 00	Gravel	550
Southwick	4,250 00	1,700 00	2,550 00	Bituminous macadam	2,250
Springfield	21,250 00	10,625 00	10,625 00	Bituminous macadam and bituminous concrete	6,587
Tolland	4,250 00	1,700 00	2,550 00	Gravel and stone retreat	6,300
Wales	2,550 00	850 00	1,700 00	Grading and drainage	1,950
Wales	255 00	255 00	255 00	Gravel and tar mixed in place	1,300
Westfield	4,250 00	2,125 00	2,125 00	Repairs and oiling	10,550
Westfield	850 00	850 00	850 00	Bituminous macadam	5,000
Westfield	1,500 00	750 00	750 00	Repairs and oiling	18,555
West Springfield	3,400 00	1,700 00	1,700 00	Concrete curbing	3,350
West Springfield	7,650 00	3,825 00	3,825 00	Reinforced cement concrete	1,851
Wilbraham	510 00	510 00	510 00	Bituminous macadam	2,749
Wilbraham	3,400 00	1,700 00	1,700 00	Bituminous macadam	403
Wilbraham	3,400 00	1,700 00	1,700 00	Bituminous macadam	4,100
Wilbraham	3,400 00	1,700 00	1,700 00	Bituminous macadam	1,450
<i>Hampshire County</i>					
Amherst	15,200 00	10,800 00	4,400 00	Bituminous macadam	2,890
Belchertown	13,812 50	3,187 50	4,250 00	Grading and drainage	310
Belchertown	2,000 00	5,450 00	600 00	Bituminous macadam	3,659
Chesterfield	850 00	425 00	425 00	Drainage	1,200
Chesterfield	850 00	425 00	425 00	Bituminous macadam	1,312
Chesterfield	850 00	425 00	425 00	Gravel	600
Cummington	2,125 00	1,275 00	850 00	Gravel	650
Cummington	850 00	425 00	425 00	Gravel and tar	500
Enfield	850 00	425 00	425 00	Gravel	1,300
Goshen	850 00	425 00	425 00	Gravel and gravel and tar mixed in place	800
Goshen	850 00	425 00	425 00	Repairs and oiling	17,424
Greenwich	425 00	212 50	212 50	Gravel	650
Hadley	15,300 00	7,650 00	7,650 00	Gravel	600
Huntington	4,000 00	2,000 00	2,000 00	Repairs and oiling	8,448
Middlefield	1,700 00	850 00	850 00	Bridge and approaches	—
Middlefield	850 00	425 00	425 00	Gravel	2,700
Northampton	4,250 00	4,250 00	1,700 00	Gravel	1,000
Northampton	3,825 00	2,550 00	1,275 00	Gravel	450
Pelham	7,980 00	2,020 00	1,700 00	Bituminous macadam	3,183
Plainfield	1,700 00	850 00	850 00	Bituminous macadam	2,600
Southampton	850 00	425 00	425 00	Bituminous macadam	2,600
Ware	3,400 00	1,700 00	1,700 00	Gravel and tar	1,200
Westhampton	1,275 00	637 50	637 50	Stone retreat	1,120
Williamsburg	1,700 00	850 00	850 00	Bituminous macadam	1,355
Worthington	1,700 00	850 00	850 00	Gravel	800
Worthington	1,700 00	850 00	850 00	Stone retreat	2,210
Worthington	1,700 00	850 00	850 00	Gravel	650
Worthington	1,700 00	850 00	850 00	Gravel	1,000
<i>Middlesex County</i>					
Acton	3,187 50	2,125 00	1,062 50	Gravel and asphaltic oil	3,300
Acton	1,700 00	1,700 00	1,700 00	Repairs and oiling	97,416
Arlington	10,000 00	5,450 00	5,450 00	Bituminous concrete	3,961
Ashby	1,275 00	425 00	850 00	Gravel and tar	1,500
Ashby	510 00	255 00	510 00	Repairs and oiling	17,952
Ashland	850 00	850 00	850 00	Repairs and oiling	30,096
Ashland	2,000 00	1,000 00	1,000 00	Grading and drainage	1,300
Ayer	1,275 00	1,275 00	1,275 00	Repairs and oiling	50,054
Ayer	7,000 00	3,500 00	3,500 00	Bituminous macadam	1,025
Bedford	2,300 00	2,300 00	2,300 00	Bituminous macadam (widening)	1,975
Bedford	2,000 00	300 00	1,700 00	Repairs and oiling	46,464
Bedford	2,720 00	1,700 00	1,020 00	Bituminous macadam	1,000
Bedford	2,550 00	1,020 00	1,530 00	Bituminous macadam	1,700
Bedford	200 00	200 00	200 00	Bituminous macadam	605
Billerica	2,550 00	2,550 00	2,550 00	Bridge painting	—
Billerica	3,400 00	2,125 00	1,275 00	Repairs and oiling	95,281
Billerica	3,825 00	2,550 00	1,275 00	Gravel and tar	2,575
Boxborough	850 00	850 00	850 00	Bituminous macadam	1,200
Boxborough	850 00	425 00	425 00	Repairs and oiling	40,656
Boxborough	600 00	200 00	400 00	Gravel and asphaltic oil	1,000
Burlington	2,125 00	2,125 00	2,125 00	Gravel and tar	1,256
Burlington	3,400 00	1,700 00	1,700 00	Repairs and oiling	73,920
Burlington	2,000 00	1,000 00	1,000 00	Gravel and tar	4,000
Carlisle	2,000 00	2,000 00	2,000 00	Gravel and asphaltic oil	1,700
Carlisle	3,700 00	2,000 00	1,700 00	Repairs and oiling	64,944
Carlisle	200 00	200 00	200 00	Grading and drainage	12,277
Chelmsford	1,700 00	1,700 00	1,700 00	Bridge painting	—
Chelmsford	5,000 00	2,500 00	2,500 00	Repairs and oiling	82,156
Concord	12,750 00	8,500 00	4,250 00	Bituminous concrete	6,200
Concord	600 00	600 00	600 00	Bituminous concrete and bituminous macadam	3,605
Concord	600 00	600 00	600 00	Bituminous macadam (widening)	1,112
Dracut	3,000 00	3,000 00	3,000 00	Repairs and oiling	56,232
Dunstable	1,487 50	1,487 50	1,487 50	Repairs and oiling	50,160
Dunstable	2,125 00	850 00	1,275 00	Repairs and oiling	15,840
Framingham	13,500 00	9,283 34	4,216 66	Penolithic pavement	2,452
Framingham	17,950 00	11,966 66	5,983 34	Bituminous macadam	6,823

COUNTIES AND TOWNS	CONTRIBUTION		County	TYPE OF ROAD	LENGTH CON- TRACTED FOR (FEET)
	State	Town			
Groton	\$2,975 00	\$2,975 00	\$2,975 00	Repairs and oiling	52,377
Groton	5,100 00	2,550 00	2,550 00	Gravel and tar	3,100
Holliston	1,275 00	1,275 00	1,275 00	Repairs and oiling	36,432
Holliston	2,550 00	850 00	1,700 00	Gravel and tar	2,500
Hopkinton	1,775 00	1,775 00	1,775 00	Repairs and oiling	70,224
Hudson	850 00	850 00	850 00	Repairs and oiling	52,113
Hudson	11,745 00	7,830 00	3,915 00	Bituminous macadam	2,308
Hudson	2,550 00	1,700 00	850 00	Bituminous macadam	800
Lexington	15,000 00	10,000 00	5,000 00	Bituminous macadam	3,045
Lexington	10,712 50	9,200 00	4,137 50	Bituminous macadam	4,080
Lincoln	850 00	850 00	850 00	Repairs and oiling	36,960
Lincoln	2,550 00	1,275 00	1,275 00	Bituminous macadam and gravel (widening)	17,424
Littleton	1,785 00	1,785 00	1,785 00	Repairs and oiling	57,024
Littleton	2,550 00	1,275 00	1,275 00	Gravel and tar	3,000
Littleton	500 00	500 00	500 00	Drainage	1,660
Lowell	12,750 00	8,500 00	4,250 00	Bituminous concrete	3,706
Lowell	10,200 00	6,800 00	3,400 00	Bituminous concrete	1,544
Lowell	6,375 00	4,250 00	2,125 00	Bituminous concrete	1,400
Malden	52,500 00	30,000 00	25,000 00	Bridge and approaches	—
Maynard	17,000 00	11,050 00	5,950 00	Bituminous macadam	4,990
Medford	46,750 00	30,000 00	25,000 00	Bituminous concrete	7,475
Melrose	13,335 36	15,300 00	8,500 00	Sheet asphalt	3,727
Melrose	12,100 00	10,200 00	5,100 00	Bituminous macadam	4,165
Natick	1,275 00	1,275 00	1,275 00	Repairs and oiling	53,275
Natick	8,500 00	4,250 00	4,250 00	Bituminous concrete	1,720
Natick	9,250 00	4,625 00	4,625 00	Bituminous concrete	1,892
Natick	1,700 00	850 00	850 00	Gravel and tar	735
Newton	51,000 00	38,250 00	21,250 00	Bituminous concrete	8,415
North Reading	1,700 00	1,700 00	1,700 00	Repairs and oiling	52,272
North Reading	3,400 00	2,550 00	1,275 00	Bituminous macadam	2,400
Pepperell	2,550 00	1,700 00	850 00	Gravel and tar	1,988
Pepperell	2,550 00	2,550 00	2,550 00	Repairs and oiling	81,312
Pepperell	2,125 00	2,125 00	2,125 00	Repairs and oiling	74,448
Sherborn	12,750 00	4,250 00	8,500 00	Bituminous macadam	3,750
Sherborn	3,000 00	1,500 00	1,500 00	Bituminous macadam	800
Shirley	1,700 00	1,700 00	1,700 00	Repairs and Oiling	51,216
Shirley	6,800 00	3,400 00	3,400 00	Gravel and tar	6,400
Stoneham	10,200 00	6,800 00	3,400 00	Penolithic pavement	3,995
Stoneham	2,000 00	1,000 00	1,000 00	Bituminous macadam	930
Stoneham	500 00	500 00	500 00	Bituminous macadam	275
Stow	1,275 00	1,275 00	1,275 00	Repairs and oiling	41,184
Sudbury	2,000 00	2,000 00	2,000 00	Repairs and oiling	81,840
Tewksbury	1,700 00	1,700 00	1,700 00	Repairs and oiling	45,408
Tewksbury	5,100 00	2,975 00	2,125 00	Bituminous macadam	2,100
Tewksbury	2,500 00	1,250 00	1,250 00	Bituminous macadam	1,500
Tewksbury	3,725 00	2,075 00	1,650 00	Gravel and tar	3,000
Townsend	1,700 00	1,700 00	1,700 00	Repairs and oiling	36,432
Townsend	2,550 00	850 00	1,700 00	Gravel and asphaltic oil	3,000
Tyngsborough	2,125 00	2,125 00	2,125 00	Repairs and oiling	77,616
Tyngsborough	1,700 00	850 00	1,700 00	Gravel and tar	2,100
Tyngsborough	1,700 00	850 00	850 00	Gravel and tar	2,100
Tyngsborough	400 00	200 00	400 00	Gravel and tar	600
Wakefield	850 00	850 00	850 00	Repairs and oiling	40,392
Wakefield	3,400 00	1,700 00	1,700 00	Bituminous macadam	400
Wakefield	6,800 00	4,250 00	2,550 00	Bituminous macadam	2,000
Waltham	42,500 00	21,250 00	21,250 00	Bituminous concrete	300
				Bituminous macadam	6,600
				Grading	5,928
Wayland	2,125 00	2,125 00	2,125 00	Repairs and oiling	52,800
Wayland	7,650 00	5,100 00	2,550 00	Bituminous macadam	3,290
Westford	2,550 00	1,275 00	1,275 00	Gravel and tar	2,000
Westford	450 00	225 00	225 00	Gravel and tar	739
Westford	3,333 33	3,333 33	3,333 34	Repairs and oiling	140,448
Wilmington	850 00	850 00	850 00	Repairs and oiling	38,016
Wilmington	2,550 00	1,700 00	850 00	Gravel and tar	1,900
Winchester	25,500 00	17,000 00	8,500 00	Bituminous concrete	4,975
Winchester	12,750 00	8,500 00	4,250 00	Bridge and approaches	—
Woburn	25,500 00	17,000 00	8,500 00	Bituminous concrete	7,462
<i>Norfolk County</i>					
Avon	5,525 00	5,525 00	—	Penolithic pavement	2,300
Bellingham	2,252 50	425 00	1,126 25	Repairs and oiling	21,270
Canton	850 00	850 00	850 00	Repairs and oiling	24,816
Foxborough	2,125 00	2,125 00	N.H.R.R.	Gravel and tar	1,500
Foxborough-Walpole	2,350 00	850 00	1,275 00	Gravel and tar mixed in place	2,005
Franklin	850 00	850 00	850 00	Repairs and oiling	65,049
Franklin	5,950 00	5,950 00	—	Gravel and tar	4,150
Franklin	4,250 00	4,250 00	—	Gravel and tar	4,250
Holbrook	425 00	425 00	425 00	Repairs and oiling	29,462
Medfield	850 00	850 00	850 00	Repairs and oiling	32,404
Medway	850 00	850 00	850 00	Repairs and oiling	5,000
Millis	850 00	850 00	850 00	Repairs and oiling	43,363
Millis	2,125 00	2,125 00	—	Bituminous macadam	682
Norfolk	850 00	850 00	850 00	Repairs and oiling	37,683
Norwood	10,000 00	10,000 00	—	Bituminous concrete	3,950

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD	LENGTH CON-TRACTED FOR (FEET)
	State	Town			
Randolph	\$850 00	\$850 00	\$850 00	Repairs and oiling	14,625
Sharon	850 00	850 00	850 00	Repairs and oiling	46,464
Stoughton	425 00	425 00	425 00	Repairs and oiling	29,145
Walpole	3,025 00	3,025 00	—	Bituminous macadam	1,070
Walpole	6,290 00	6,290 00	—	Bituminous macadam	2,150
Weymouth	12,750 00	12,750 00	—	Bituminous concrete	3,920
Wrentham	3,400 00	3,400 00	—	Gravel and tar	3,035
Wrentham	3,400 00	3,400 00	—	Gravel and tar	3,000
Wrentham	1,000 00	1,000 00	1,000 00	Repairs and oiling	15,863
<i>Plymouth County</i>					
Abington	7,225 00	3,612 50	3,612 50	Bituminous macadam	2,691
Abington	1,700 00	1,700 00	—	Bituminous concrete sidewalk and concrete curbing	1,700
Bridgewater	15,300 00	7,650 00	7,650 00	Bituminous macadam	3,450
Brockton	17,000 00	17,000 00	—	Bituminous macadam	6,200
Carver	3,400 00	1,700 00	1,700 00	Gravel and tar mixed in place	2,800
East Bridgewater	9,350 00	4,675 00	4,675 00	Penolithic pavement	3,980
Halifax	5,950 00	2,975 00	2,975 00	Gravel and tar	7,282
Kingston	6,375 00	3,187 50	3,187 50	Bituminous macadam and gravel and tar mixed in place	3,203
Marion	3,825 00	1,912 50	1,912 50	Penolithic pavement	2,364
Marshfield	5,100 00	2,550 00	2,550 00	Penolithic pavement	2,510
Pembroke	3,400 00	1,700 00	1,700 00	Gravel and tar mixed in place	4,000
Plymouth	5,950 00	2,975 00	2,975 00	Gravel and tar mixed in place	8,000
Plymouth	1,275 00	637 50	637 50	Bridge	—
Plympton	800 00	300 00	500 00	Gravel and tar	2,800
Rochester	5,100 00	2,550 00	2,550 00	Gravel and tar	9,510
Rockland	3,400 00	1,700 00	1,700 00	Bituminous macadam	850
Rockland	4,250 00	2,125 00	2,125 00	Penolithic pavement	1,800
West Bridgewater	5,100 00	2,550 00	2,550 00	Gravel and tar	3,800
Whitman	10,200 00	6,000 00	5,550 00	Bituminous macadam	3,800
<i>Worcester County</i>					
Ashburnham	1,487 50	850 00	1,487 50	Repairs and oiling	39,340
Athol	425 00	425 00	425 00	Repairs and oiling	16,000
Barre	7,650 00	4,250 00	3,400 00	Gravel and tar mixed in place	6,200
Barre	500 00	500 00	500 00	Repairs and oiling	39,900
Berlin	6,375 00	2,975 00	3,400 00	Gravel and tar mixed in place	3,000
Berlin	2,125 00	850 00	2,125 00	Repairs and oiling	45,815
Blackstone	5,100 00	2,550 00	2,550 00	Stone and tar mixed in place	3,427
Blackstone	850 00	850 00	850 00	Repairs and oiling	41,115
Blackstone	4,000 00	2,000 00	2,000 00	Gravel and tar mixed in place	3,900
Bolton	5,950 00	1,700 00	4,250 00	Penolithic pavement	2,800
Bolton	850 00	425 00	850 00	Repairs and oiling	32,544
Boylston	3,400 00	1,700 00	1,700 00	Gravel and tar mixed in place	2,500
Boylston	680 00	425 00	680 00	Repairs and oiling	50,866
Brookfield	2,550 00	850 00	1,700 00	Gravel and tar mixed in place	2,000
Brookfield	425 00	425 00	425 00	Repairs and oiling	21,775
Charlton	2,805 00	1,275 00	1,530 00	Gravel and tar mixed in place	2,175
Charlton	1,955 00	850 00	1,105 00	Grading and drainage	4,849
Clinton	8,500 00	2,125 00	—	Stone and tar mixed in place	2,900
Clinton	2,375 00	3,137 00	2,650 00	Trap rock and tar mixed in place	2,000
Dana	1,700 00	425 00	850 00	Gravel and tar mixed in place	1,500
Dana	1,275 00	425 00	850 00	Gravel and tar (widening)	6,300
Dana	850 00	850 00	850 00	Repairs and oiling	76,950
Douglas	4,250 00	2,125 00	2,125 00	Gravel and tar mixed in place	3,900
Dudley	2,700 00	1,350 00	1,350 00	Gravel and tar mixed in place	3,321
Dudley	4,100 00	2,050 00	2,050 00	Gravel and tar mixed in place	2,000
Dudley	340 00	340 00	340 00	Repairs and oiling	9,250
East Brookfield	1,870 00	935 00	935 00	Bridge and approaches	—
Fitchburg	12,750 00	6,375 00	6,375 00	Bituminous macadam	4,267
Fitchburg	11,050 00	5,525 00	5,525 00	Stone and tar mixed in place	4,450
Grafton	6 375 00	3,187 50	3,187 50	Bituminous macadam	2,000
Grafton	3,000 00	3,000 00	3,000 00	Repairs and oiling	31,608
Hardwick	3,400 00	1,190 00	2,210 00	Gravel and tar mixed in place	2,900
Hardwick	1,105 00	1,105 00	1,105 00	Repairs and oiling	42,550
Harvard	1,275 00	1,275 00	1,275 00	Repairs and oiling	36,457
Holden	8,500 00	4,250 00	4,250 00	Grading and drainage	6,187
Holden	850 00	850 00	850 00	Repairs and oil	35,388
Hubbardston	2,550 00	850 00	1,700 00	Gravel and tar mixed in place	2,200
Hubbardston	1,700 00	425 00	1,275 00	Gravel and tar mixed in place	2,600
Hubbardston	1,190 00	595 00	1,190 00	Repairs and oiling	41,700
Leicester	5,950 00	2,150 00	2,975 00	Gravel and tar mixed in place	4,200
Leicester	850 00	850 00	850 00	Repairs and oiling	35,800
Lunenburg	5,950 00	2,295 00	3,655 00	Gravel and tar mixed in place	5,100
Lunenburg	1,487 50	1,062 50	1,487 50	Repairs and oiling	38,419
Mendon	3,300 00	1,100 00	2,200 00	Gravel and tar mixed in place	1,700
Mendon	2,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	1,450
Mendon	850 00	850 00	850 00	Repairs and oiling	22,400
Milford	9,350 00	4,675 00	4,675 00	Bituminous macadam	6,450
Milford	850 00	850 00	850 00	Repairs and oiling	12,712
Milford	8,500 00	4,250 00	4,250 00	Penolithic pavement	5,200
Millbury	12,750 00	6,375 00	6,375 00	Penolithic pavement	3,000
Millville	18,000 00	—	3,000 00	2 Bridges and approaches	—
New Braintree	2,550 00	1,275 00	1,275 00	Gravel and tar mixed in place	2,200

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD	LENGTH CON- TRACTED FOR (FEET)
	State	Town			
New Braintree	\$850 00	\$425 00	\$850 00	Repairs and oiling	42,939
North Brookfield	3,000 00	1,500 00	1,500 00	Gravel and tar mixed in place	3,600
North Brookfield	2,950 00	1,475 00	1,475 00	Trap rock and tar mixed in place	713
North Brookfield	400 00	200 00	200 00	Gravel and tar mixed in place	225
Northbridge	7,650 00	4,250 00	3,400 00	Stone and tar mixed in place	6,850
Northbridge	2,550 00	1,275 00	1,275 00	Grading and drainage	1,750
Northbridge	425 00	425 00	425 00	Repairs and oiling	14,600
Oakham	4,250 00	1,700 00	2,550 00	Gravel and tar mixed in place	2,700
Oakham	1,105 00	850 00	1,105 00	Repairs and oiling	37,700
Paxton	3,825 00	1,275 00	2,550 00	Gravel and tar mixed in place	2,550
Paxton	1,360 00	680 00	1,360 00	Repairs and oiling	33,700
Petersham	1,275 00	1,275 00	1,275 00	Repairs and oiling	36,780
Princeton	1,700 00	850 00	850 00	Gravel and tar mixed in place	1,050
Princeton	3,400 00	1,700 00	1,700 00	Bridge—gravel and tar mixed in place	2,150
Princeton	1,105 00	765 00	1,105 00	Repairs and oiling	77,196
Royalston	1,062 50	425 00	637 50	Repairs	19,050
Royalston	1,700 00	1,105 00	1,700 00	Repairs and oiling	51,360
Rutland	3,400 00	2,000 00	2,000 00	Gravel and tar mixed in place	2,150
Rutland	3,400 00	1,700 00	1,700 00	Gravel and tar	1,720
Rutland	1,912 50	1,275 00	1,912 50	Repairs and oiling	45,042
Shrewsbury	850 00	850 00	850 00	Repairs and oiling	23,750
Southborough	510 00	510 00	510 00	Repairs and oiling	22,000
Southbridge	12,750 00	8,500 00	4,250 00	Penolithic pavement	4,650
Southbridge	595 00	595 00	595 00	Repairs and oiling	18,100
Spencer	11,050 00	4,250 00	6,800 00	Gravel and tar mixed in place	7,085
Spencer	680 00	680 00	680 00	Repairs and oiling	25,400
Sterling	4,675 00	1,700 00	2,975 00	Bridge—gravel and tar mixed in place	5,608
Sterling	4,675 00	1,700 00	2,975 00	Gravel and tar mixed in place	3,750
Sterling	1,020 00	680 00	1,020 00	Repairs and oiling	83,499
Sturbridge	2,550 00	850 00	1,700 00	Gravel and tar mixed in place	2,100
Sturbridge	318 75	212 50	318 75	Repairs and oiling	10,382
Sutton	7,650 00	2,000 00	5,950 00	Gravel and tar mixed in place	6,450
Sutton	510 00	510 00	510 00	Repairs and oiling	28,100
Sutton	450 00	500 00	350 00	Gravel and tar mixed in place	550
Sutton	900 00	1,000 00	750 00	Gravel and tar mixed in place	1,050
Templeton	5,100 00	2,550 00	2,550 00	Gravel and tar mixed in place	3,240
Templeton	1,275 00	1,275 00	1,275 00	Repairs and oiling	48,700
Upton	255 00	255 00	255 00	Repairs and oiling	15,650
Uxbridge	6,800 00	3,825 00	2,975 00	Gravel and tar mixed in place	2,300
Uxbridge	4,250 00	2,550 00	1,700 00	Gravel and tar mixed in place	7,635
Uxbridge	6,800 00	3,825 00	2,975 00	Grading and drainage	5,000
Uxbridge	850 00	850 00	850 00	Repairs and oiling	21,925
Warren	340 00	340 00	340 00	Repairs and oiling	17,100
Warren	4,482 50	2,241 25	2,241 25	Repairs to 2 bridges	—
Warren	4,175 00	2,087 50	2,087 50	Bridge	—
West Boylston	1,020 00	403 75	716 25	Gravel and tar mixed in place	950
West Boylston	850 00	340 00	510 00	Gravel and tar mixed in place	350
West Boylston	3,400 00	1,360 00	2,040 00	Gravel and tar mixed in place	2,750
West Boylston	3,400 00	1,360 00	2,040 00	Stone and tar mixed in place	3,345
West Boylston	1,275 00	850 00	1,275 00	Repairs and oiling	42,205
West Brookfield	2,550 00	850 00	1,700 00	Bridge and approaches	—
West Brookfield	3,825 00	1,275 00	2,550 00	Grading and drainage	2,700
West Brookfield	340 00	340 00	340 00	Repairs and oiling	39,350
Westborough	680 00	680 00	680 00	Repairs and oiling	50,269
Westminster	5,100 00	1,700 00	3,400 00	Gravel and tar mixed in place	3,072
Westminster	1,700 00	850 00	1,700 00	Repairs and oiling	67,330
Winchendon	425 00	425 00	425 00	Repairs and oiling	19,528
Worcester	42,500 00	21,250 00	21,250 00	Bituminous macadam	5,316

EXPENDITURES FOR CONSTRUCTION OF TOWN AND COUNTY WAYS

The expenditures during the year in various Counties were: —

Barnstable	\$57,209.06	Hampshire	\$121,263.67
Berkshire	210,483.69	Middlesex	598,429.18
Bristol	22,620.94	Norfolk	126,585.01
Dukes	70,282.39	Plymouth	150,481.44
Essex	272,649.10	Worcester	460,199.85
Franklin	138,404.37		
Hampden	211,977.12		
		Total	\$2,440,585.82

Details of the foregoing expenditures follow: —

Barnstable County.—Barnstable, \$22,661.36; Brewster, \$5,088.94; Chatham, \$5,886.03; Falmouth, \$6,241.68; Harwich, \$9,837.07; Orleans, \$7,493.98.

Berkshire County.—Adams, \$6,507.39; Alford, \$2,052.92; Becket, \$7,228.47; Cheshire, \$3,145.89; Clarksburg, \$3,295.80; Dalton, \$12,124.36; Egremont, \$3,-

701.06; Florida, \$6,592.14; Great Barrington, \$10,871.07; Hancock, \$15,099.16; Hinsdale, \$1,156.55; Lanesborough, \$6,935.58; Lee, \$7,864.73; Lenox, \$5,782.89; Monterey, \$2,312.73; Mt. Washington, \$1,734.87; New Ashford, \$2,318.88; New Marlborough, \$5,896.48; North Adams, \$2,018.91; Otis, \$2,746.12; Peru, \$1,660.64; Pittsfield, \$29,566.04; Richmond, \$4,374.43; Sandisfield, \$5,782.88; Savoy, \$2,312.67; Sheffield, \$5,790.66; Stockbridge, \$9,583.49; Tyringham, \$4,626.31; Washington, \$7,459.93; West Stockbridge, \$6,939.11; Williamstown, \$20,861.86; Windsor, \$2,139.67.

Bristol County.—Acushnet, \$294.93; Dartmouth, \$7,284.72; Easton, \$5,898.55; Fairhaven, \$983.09; Freetown, \$983.09; Mansfield, \$2,370.98; Norton, \$491.54; Raynham, \$578.29; Rehoboth, \$3,735.75.

Dukes County.—Edgartown, \$14,255.74; Gosnold, \$4,926.17; Oak Bluffs, \$24,835.80; Tisbury, \$26,264.68.

Essex County.—Amesbury, \$11,691.51; Andover, \$6,248.61; Beverly, \$3,874.54; Boxford, \$8,387.77; Danvers, \$2,196.65; Essex, \$2,313.16; Georgetown, \$8,385.19; Gloucester, \$8,674.34; Hamilton, \$7,635.79; Haverhill, \$5,381.22; Ipswich, \$5,898.55; Lawrence, \$87,944.40; Lynn, \$4,470.50; Lynnfield, \$6,909.24; Manchester, \$11,527.20; Marblehead, \$8,564.92; Merrimac, \$13,276.90; Methuen, \$1,156.58; Middleton, \$8,171.06; Newbury, \$5,650.58; North Andover, \$6,361.18; Peabody, \$15,861.82; Rockport, \$2,891.27; Salisbury, \$5,471.25; Swampscott, \$6,819.41; Topsfield, \$5,965.05; West Newbury, \$10,920.41.

Franklin County.—Ashfield, \$2,457.74; Bernardston, \$1,966.18; Buckland, \$3,932.38; Charlemont, \$1,966.18; Colrain, \$10,507.24; Conway, \$2,949.27; Deerfield, \$1,966.18; Erving, \$1,966.18; Gill, \$1,966.18; Greenfield, \$19,742.99; Hawley, \$1,966.18; Heath, \$1,966.18; Leverett, \$1,966.18; Leyden, \$1,966.18; Monroe, \$3,449.67; Montague, \$14,916.35; New Salem, \$20,497.05; Northfield, \$1,966.18; Orange, \$3,727.28; Rowe, \$2,949.27; Shelburne, \$6,997.30; Shutesbury, \$13,749.09; Sunderland, \$3,527.58; Warwick, \$1,966.18; Wendell, \$5,407.00; Whately, \$1,966.18.

Hampden County.—Agawam, \$24,871.43; Blandford, \$4,450.32; Brimfield, \$5,027.60; Chester, \$9,830.91; Chicopee, \$30,504.19; East Longmeadow, \$8,871.10; Granville, \$5,898.55; Hampden, \$5,407.00; Holland, \$8,025.93; Holyoke, \$5,767.22; Longmeadow, \$9,138.46; Ludlow, \$9,504.71; Monson, \$6,366.01; Montgomery, \$2,949.27; Palmer, \$8,958.63; Russell, \$491.54; Southwick, \$7,228.60; Springfield, \$21,875.29; Tolland, \$4,915.46; Wales, \$3,533.34; West Springfield, \$12,273.58; Westfield, \$7,633.40; Wilbraham, \$8,454.58.

Hampshire County.—Amherst, \$21,363.96; Belchertown, \$23,118.99; Chesterfield, \$2,949.27; Cummington, \$3,421.96; Easthampton, \$3,196.88; Enfield, \$983.09; Goshen, \$1,966.18; Greenwich, \$491.54; Hadley, \$11,929.31; Huntington, \$4,622.77; Middlefield, \$2,949.27; Northampton, \$9,339.37; Pelham, \$10,129.38; Plainfield, \$8,905.65; South Hadley, \$1,875.97; Southampton, \$983.05; Ware, \$5,667.23; Westhampton, \$1,474.64; Williamsburg, \$1,966.18; Worthington, \$3,928.98.

Middlesex County.—Acton, \$5,652.77; Arlington, \$14,370.57; Ashby, \$647.68; Ashland, \$7,690.65; Ayer, \$8,414.11; Bedford, \$11,184.11; Belmont, \$2,777.27; Billerica, \$14,039.25; Boxborough, \$3,180.58; Burlington, \$6,852.72; Carlisle, \$5,551.52; Chelmsford, \$9,589.21; Concord, \$13,740.03; Dracont, \$3,469.73; Dunstable, \$4,178.14; Framingham, \$27,605.90; Groton, \$9,339.19; Holliston, \$4,423.84; Hopkinton, \$2,052.76; Hudson, \$19,363.59; Lexington, \$25,150.07; Lincoln, \$4,048.02; Littleton, \$5,592.03; Lowell, \$36,722.30; Marlborough, \$493.02; Maynard, \$16,854.51; Medford, \$48,465.57; Melrose, \$22,439.83; Natick, \$22,242.55; Newton, \$31,049.49; North Reading, \$6,129.86; Pepperell, \$5,898.20; Reading, \$792.37; Sherborn, \$24,170.69; Shirley, \$9,830.03; Stoneham, \$20,565.87; Stow, \$1,474.64; Sudbury, \$2,313.13; Tewksbury, \$15,150.99; Townsend, \$4,915.46; Tyngsboro, \$6,851.08; Wakefield, \$12,598.15; Waltham, \$22,806.23; Wayland, \$10,803.59; Westford, \$8,822.88; Wilmington, \$3,932.06; Winchester, \$38,889.40; Woburn, \$15,303.54.

Norfolk County.—Avon, \$9,295.52; Bellingham, \$2,605.19; Canton, \$809.61; Dover, \$5,133.87; Foxboro, \$3,473.67; Franklin, \$14,570.15; Medfield, \$982.86; Medway, \$983.09; Millis, \$3,440.82; Norfolk, \$983.09; Norwood, \$49,868.80;

Randolph, \$647.68; Sharon, \$983.09; Stoughton, \$491.55; Walpole, \$10,773.52; Weymouth, \$11,601.80; Wrentham, \$9,940.70.

Plymouth County.—Abington, \$12,292.72; Bridgewater, \$20,698.66; Brockton, \$19,955.46; Carver, \$3,879.58; East Bridgewater, \$11,268.11; Halifax, \$13,016.37; Hanover, \$4,079.14; Kingston, \$9,664.79; Lakeville, \$1,445.49; Marion, \$4,899.65; Marshfield, \$5,664.62; Pembroke, \$3,550.68; Plymouth, \$5,840.71; Plympton, \$925.25; Rochester, \$5,898.54; Rockland, \$10,715.03; Scituate, \$343.17; West Bridgewater, \$4,975.60; Whitman, \$11,367.87.

Worcester County.—Ashburnham, \$3,744.42; Athol, \$3,972.76; Auburn, \$5,823.99; Barre, \$5,617.96; Berlin, \$12,071.75; Blackstone, \$9,002.76; Bolton, \$9,531.15; Boylston, \$8,045.06; Brookfield, \$6,305.25; Charlton, \$7,100.26; Clinton, \$11,799.44; Dana, \$6,613.49; Douglas, \$5,823.02; Dudley, \$10,420.98; East Brookfield, \$2,509.77; Fitchburg, \$11,555.66; Gardner, \$1,734.87; Grafton, \$10,150.50; Hardwick, \$7,152.76; Harvard, \$3,578.55; Holden, \$12,223.30; Hubbardston, \$4,453.56; Leicester, \$9,194.79; Lunenburg, \$10,783.87; Mendon, \$6,121.50; Milford, \$18,891.80; Millbury, \$2,205.58; Millville, \$9,301.63; New Braintree, \$6,533.43; North Brookfield, \$8,680.24; Northborough, \$578.29; Northbridge, \$17,020.59; Oakham, \$8,385.53; Paxton, \$6,427.75; Petersham, \$4,907.78; Phillipston, \$6,770.28; Princeton, \$14,822.68; Royalston, \$8,052.67; Rutland, \$11,150.09; Shrewsbury, \$12,164.67; Southborough, \$821.04; Southbridge, \$11,628.68; Spencer, \$10,937.07; Sterling, \$13,592.28; Sturbridge, \$3,664.91; Sutton, \$11,291.31; Templeton, \$10,236.66; Upton, \$294.93; Uxbridge, \$12,671.43; Warren, \$1,943.07; West Boylston, \$10,802.80; West Brookfield, \$3,964.17; Westboro, \$1,711.73; Westminster, \$8,044.63; Winchendon, \$1,224.91; Worcester, \$36,145.80.

REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS, IN CERTAIN TOWNS

(Sections 26 to 29 and 31 of Chapter 81, General Laws (Ter. Ed.) as amended by Chapter 366, Acts of 1934)

During the year the Department contracted for work to be done in the towns named in the following table, which also shows the road mileage in the towns and the allotments or contributions by the State and towns:—

Counties and Towns	Miles of Road	Allotment	
		State	Town
<i>Barnstable County</i>			
Brewster	40	\$6,000 00	\$5,000 00
Dennis	78	11,700 00	7,800 00
Eastham	42	6,300 00	3,150 00
Mashpee	27	4,050 00	2,025 00
Sandwich	67	10,050 00	6,700 00
Truro	30	4,500 00	3,750 00
Welfleet	36	5,400 00	4,500 00
<i>Berkshire County</i>			
Alford	19	2,850 00	760 00
Becket	58	8,700 00	2,320 00
Cheshire	42	6,300 00	3,150 00
Clarksburg	14	2,100 00	2,100 00
Egremont	32	4,800 00	2,400 00
Florida	43	6,450 00	3,225 00
Hancock	30	4,500 00	1,200 00
Hinsdale	35	5,250 00	2,625 00
Lanesborough	42	6,300 00	3,150 00
Monterey	52	7,800 00	2,080 00
Mount Washington	20	3,000 00	500 00
New Ashford	11	1,650 00	275 00
New Marlborough	85	12,750 00	3,400 00
Otis	45	6,750 00	1,800 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
Peru	37	\$5,550 00	\$555 00
Richmond	32	4,800 00	2,400 00
Sandisfield	79	11,850 00	1,185 00
Savoy	56	8,400 00	840 00
Sheffield	77	11,550 00	3,850 00
Tyringham	25	3,750 00	1,250 00
Washington	51	7,650 00	765 00
West Stockbridge	36	5,400 00	3,600 00
Windsor	65	9,750 00	975 00
<i>Bristol County</i>			
Berkley	42	6,300 00	2,100 00
Freetown	47	7,050 00	3,525 00
Norton	57	8,550 00	5,700 00
Raynham	45	6,750 00	4,500 00
Rehoboth	109	16,350 00	8,175 00
<i>Dukes County</i>			
Chilmark	14	2,100 00	1,750 00
West Tisbury	13	1,950 00	1,950 00
<i>Essex County</i>			
Boxford	53	7,950 00	3,975 00
Georgetown	35	5,250 00	4,375 00
Groveland	30	4,500 00	4,500 00
Merrimac	31	4,650 00	3,875 00
Middleton	30	4,500 00	4,500 00
Newbury	38	5,700 00	4,750 00
Rowley	31	4,650 00	3,875 00
West Newbury	37	5,550 00	3,700 00
<i>Franklin County</i>			
Ashfield	80	12,000 00	3,200 00
Bernardston	40	6,000 00	3,000 00
Buckland	45	6,750 00	6,750 00
Charlemont	49	7,350 00	3,675 00
Colrain	84	12,600 00	4,200 00
Conway	72	10,800 00	2,880 00
Deerfield	74	11,100 00	9,250 00
Gill	34	5,100 00	2,550 00
Hawley	49	7,350 00	735 00
Heath	53	7,950 00	795 00
Leverett	38	5,700 00	1,520 00
Leyden	39	5,850 00	585 00
Monroe	18	2,700 00	2,700 00
New Salem	65	9,750 00	975 00
Northfield	66	9,900 00	4,950 00
Rowe	40	6,000 00	1,600 00
Shelburne	48	7,200 00	6,000 00
Shutesbury	38	5,700 00	950 00
Sunderland	34	5,100 00	2,550 00
Warwick	56	8,400 00	840 00
Wendell	48	7,200 00	2,400 00
Whately	40	6,000 00	3,000 00
<i>Hampden County</i>			
Blandford	78	11,700 00	1,950 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
Brimfield	60	\$9,000 00	\$2,400 00
Chester	68	10,200 00	3,400 00
Granville	73	10,950 00	5,475 00
Hampden	34	5,100 00	2,550 00
Holland	31	4,650 00	465 00
Monson	101	15,150 00	10,100 00
Montgomery	27	4,050 00	675 00
Southwick	50	7,500 00	5,000 00
Tolland	40	6,000 00	600 00
Wales	25	3,750 00	1,000 00
Wilbraham	43	6,450 00	6,450 00
<i>Hampshire County</i>			
Belchertown	109	16,350 00	4,360 00
Chesterfield	59	8,850 00	1,475 00
Cummington	49	7,350 00	1,225 00
Enfield	37	5,550 00	925 00
Goshen	28	4,200 00	700 00
Granby	48	7,200 00	2,400 00
Greenwich	39	5,850 00	1,560 00
Hadley	59	8,850 00	7,375 00
Hatfield	46	6,900 00	5,750 00
Huntington	41	6,150 00	3,075 00
Middlefield	41	6,150 00	615 00
Pelham	31	4,650 00	2,325 00
Plainfield	49	7,350 00	735 00
Prescott	39	5,850 00	585 00
Southampton	56	8,400 00	2,240 00
Westhampton	50	7,500 00	750 00
Williamsburg	44	6,600 00	3,300 00
Worthington	68	10,200 00	1,700 00
<i>Middlesex County</i>			
Acton	58	8,700 00	8,700 00
Ashby	56	8,400 00	2,800 00
Ashland	38	5,700 00	5,700 00
Bedford	36	5,400 00	5,400 00
Boxborough	23	3,450 00	920 00
Burlington	34	5,100 00	5,100 00
Carlisle	42	6,300 00	3,150 00
Dracut	62	9,300 00	9,300 00
Dunstable	37	5,550 00	925 00
Holliston	50	7,500 00	7,500 00
Hopkinton	66	9,900 00	6,600 00
Littleton	42	6,300 00	6,300 00
North Reading	33	4,950 00	4,950 00
Pepperell	69	10,350 00	6,900 00
Sherborn	43	6,450 00	5,375 00
Shirley	46	6,900 00	4,600 00
Stow	43	6,450 00	3,225 00
Sudbury	64	9,600 00	6,400 00
Tewksbury	57	8,550 00	8,550 00
Townsend	70	10,500 00	7,000 00
Tyngsborough	40	6,000 00	4,000 00
Westford	85	12,750 00	10,625 00
<i>Norfolk County</i>			
Bellingham	44	6,600 00	6,600 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
Medfield	41	\$6,150 00	\$6,150 00
Medway	45	6,750 00	6,750 00
Millis	42	6,300 00	6,300 00
Norfolk	41	6,150 00	4,100 00
Plainville	32	4,800 00	4,000 00
<i>Plymouth County</i>			
Carver	67	10,050 00	6,700 00
Halifax	34	5,100 00	3,400 00
Hanson	36	5,400 00	5,400 00
Lakeville	42	6,300 00	3,150 00
Norwell	47	7,050 00	4,700 00
Pembroke	49	7,350 00	6,125 00
Plympton	30	4,500 00	2,250 00
Rochester	50	7,500 00	3,750 00
<i>Worcester County</i>			
Ashburnham	75	11,250 00	5,625 00
Barre	110	16,500 00	8,250 00
Berlin	39	5,850 00	2,925 00
Bolton	53	7,950 00	2,650 00
Boylston	40	6,000 00	3,000 00
Brookfield	37	5,550 00	3,700 00
Charlton	110	16,500 00	4,400 00
Dana	43	6,450 00	1,075 00
Douglas	70	10,500 00	5,250 00
Dudley	63	9,450 00	7,875 00
East Brookfield	19	2,850 00	2,375 00
Grafton	58	10,200 00	10,200 00
Hardwick	96	14,400 00	4,800 00
Harvard	56	8,400 00	5,600 00
Holden	77	11,550 00	7,700 00
Hubbardston	75	11,250 00	1,875 00
Lancaster	58	8,700 00	7,250 00
Leicester	66	9,900 00	8,250 00
Lunenburg	66	9,900 00	4,950 00
Mendon	36	5,400 00	3,600 00
New Braintree	49	7,350 00	1,225 00
North Brookfield	69	10,350 00	6,900 00
Northborough	47	7,050 00	5,875 00
Oakham	45	6,750 00	1,125 00
Oxford	66	9,900 00	8,250 00
Paxton	29	4,350 00	2,175 00
Petersham	70	10,500 00	3,500 00
Phillipston	41	6,150 00	1,025 00
Princeton	72	10,800 00	2,880 00
Royalston	67	10,050 00	1,675 00
Rutland	68	10,200 00	3,400 00
Southborough	46	6,900 00	6,900 00
Spencer	100	15,000 00	12,500 00
Sterling	73	10,950 00	5,475 00
Sturbridge	70	10,500 00	3,500 00
Sutton	84	12,600 00	4,200 00
Templeton	63	9,450 00	7,875 00
Upton	60	9,000 00	4,500 00
Warren	71	10,650 00	7,100 00
West Boylston	36	5,400 00	5,400 00
West Brookfield	53	7,950 00	3,975 00
Westminster	77	11,550 00	5,775 00

EXPENDITURES FOR REPAIR AND IMPROVEMENT OF PUBLIC WAYS

The expenditures during the year in various counties were: —

Barnstable	\$49,956.06	Hampden	\$108,127.04
Berkshire	166,063.44	Hampshire	145,806.66
Bristol	48,878.58	Middlesex	239,830.91
Dukes	4,740.14	Norfolk	18,523.90
Essex	48,268.04	Plymouth	58,127.71
Franklin	182,685.97	Worcester	463,791.46

Total \$1,534,799.91

Details of the foregoing expenditures follow: —

Barnstable County. — Brewster, \$7,038.52; Dennis, \$11,600.52; Eastham, \$6,788.69; Mashpee, \$4,572.86; Sandwich, \$10,427.41; Truro, \$4,692.34; Wellfleet, \$4,835.72.

Berkshire County. — Alford, \$2,624.10; Becket, \$8,115.52; Cheshire, \$6,951.09; Clarksburg, \$2,255.48; Egremont, \$5,189.81; Florida, \$6,536.27; Hancock, \$5,388.67; Hinsdale, \$5,323.40; Lanesborough, \$7,636.20; Monterey, \$9,776.61; Mt. Washington, \$2,759.57; New Ashford, \$2,039.21; New Marlborough, \$16,155.73; Otis, \$8,771.69; Peru, \$6,283.85; Richmond, \$5,067.33; Sandisfield, \$13,004.54; Savoy, \$9,229.67; Sheffield, \$12,845.29; Tyringham, \$3,617.02; Washington, \$9,122.04; West Stockbridge, \$5,698.72; Windsor, \$11,671.63.

Bristol County. — Berkley, \$6,843.00; Freetown, \$7,657.64; Norton, \$9,286.93; Raynham, \$7,331.79; Rehoboth, \$17,759.22.

Dukes County. — Chilmark, \$2,535.17; West Tisbury, \$2,204.97.

Essex County. — Boxford, \$7,324.77; Essex, \$1,160.01; Georgetown, \$7,367.29; Groveland, \$4,828.47; Merrimac, \$5,050.79; Middleton, \$4,725.22; Newbury, \$5,669.64; Rowley, \$4,334.40; Topsfield, \$1,895.76; West Newbury, \$5,911.69.

Franklin County. — Ashfield, \$13,631.69; Bernardston, \$6,544.30; Buckland, \$6,951.62; Charlemont, \$8,282.20; Colrain, \$13,441.61; Conway, \$11,432.16; Deerfield, \$11,649.40; Gill, \$6,462.93; Hawley, \$7,820.57; Heath, \$8,635.22; Leverett, \$5,865.43; Leyden, \$6,327.06; Monroe, \$2,987.03; New Salem, \$11,692.30; Northfield, \$11,730.86; Rowe, \$6,571.45; Shelburne, \$7,630.49; Shutesbury, \$6,218.44; Sunderland, \$5,539.58; Warwick, \$8,445.13; Wendell, \$8,309.36; Whately, \$6,517.14.

Hampden County. — Blandford, \$12,858.50; Brimfield, \$10,714.40; Chester, \$13,663.55; Granville, \$11,893.79; Hampden, \$5,648.19; Holland, \$5,394.88; Monson, \$16,950.85; Montgomery, \$4,656.95; Southwick, \$8,064.97; Tolland, \$6,912.13; Wales, \$4,281.60; Wilbraham, \$7,087.23.

Hampshire County. — Belchertown, \$18,166.54; Chesterfield, \$9,612.79; Cummington, \$7,983.50; Enfield, \$6,707.23; Goshen, \$4,562.00; Granby, \$7,820.57; Greenwich, \$6,001.20; Hadley, \$9,612.79; Hatfield, \$7,413.25; Huntington, \$7,276.23; Middlefield, \$6,644.28; Pelham, \$4,806.39; Plainfield, \$7,847.73; Prescott, \$6,299.91; Southampton, \$9,124.00; Westhampton, \$8,146.43; Williamsburg, \$7,168.72; Worthington, \$10,613.10.

Middlesex County. — Acton, \$13,468.76; Ashby, \$11,405.00; Ashland, \$7,114.55; Bedford, \$6,408.53; Boxborough, \$4,724.93; Burlington, \$6,680.07; Carlisle, \$10,101.57; Dracut, \$12,925.67; Dunstable, \$7,874.88; Groton, \$1,683.60; Holliston, \$11,513.62; Hopkinton, \$14,880.81; Lincoln, \$706.03; Littleton, \$8,417.98; North Reading, \$6,843.00; Pepperell, \$13,631.69; Sherborn, \$9,775.72; Shirley, \$9,124.00; Stow, \$8,852.45; Sudbury, \$16,292.86; Tewksbury, \$14,337.72; Townsend, \$15,423.91; Tyngsborough, \$7,114.55; Westford, \$20,529.01.

Norfolk County. — Bellingham, \$2,471.49; Medfield, \$3,898.28; Medway, \$2,928.59; Millis, \$2,643.60; Norfolk, \$3,661.40; Plainville, \$2,920.54.

Plymouth County. — Carver, \$9,980.55; Halifax, \$6,067.30; Hanson, \$6,803.66; Lakeville, \$6,962.49; Norwell, \$7,563.15; Pembroke, \$7,795.37; Plympton, \$4,790.87; Rochester, \$8,164.32.

Worcester County. — Ashburnham, \$14,442.83; Barre, \$20,235.17; Berlin, \$6,405.89; Bolton, \$7,124.10; Boylston, \$7,953.98; Brookfield, \$7,447.73; Charlton, \$15,547.26; Dana, \$7,005.93; Douglas, \$13,512.56; Dudley, \$8,958.13; East Brook-

field, \$2,729.63; Grafton, \$11,270.79; Hardwick, \$13,974.93; Harvard, \$9,124.00; Holden, \$13,422.26; Hubbardston, \$14,053.65; Lancaster, \$9,449.86; Leicester, \$10,587.69; Lunenburg, \$14,071.94; Mendon, \$5,865.43; New Braintree, \$9,415.75; North Brookfield, \$9,404.38; Northborough, \$7,821.05; Oakham, \$8,261.08; Oxford, \$11,816.42; Paxton, \$4,973.40; Petersham, \$11,947.22; Philipston, \$8,839.02; Princeton, \$15,121.11; Royalston, \$11,429.56; Rutland, \$11,560.66; Southborough, \$7,727.25; Spencer, \$16,753.55; Sterling, \$14,905.07; Sturbridge, \$15,568.80; Sutton, \$15,319.49; Templeton, \$12,043.22; Upton, \$12,512.50; Warren, \$14,899.31; West Boylston, \$6,280.78; West Brookfield, \$10,609.41; Westborough, \$1,513.35; Westminster, \$11,885.32.

THE REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW (Sections 29–33, Chapter 93, General Laws, as amended)

In accordance with the provisions of sections 29 and 33 inclusive, chapter 93, General Laws, as amended by chapters 85, 237, 334 and 490, Acts of 1924, providing for the control of billboards and other advertising devices on public ways or on private property within public view of any highway, public park or reservation, the Department adopted on Jan. 24, 1924, certain new rules and regulations, superseding all former issues; and these have continued in force during the present year.

Applications, Licenses and Permits.—Licenses were granted to (21) individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 614 applications received for permits for the erection of advertising signs, 103 permits were granted for the year, while (449) applications are being held awaiting the decision of the United States Supreme Court of the case of the General Outdoor Advertising Company and others against the Department of Public Works. Fifty-seven permits were granted on applications filed previous to 1935, while (36) applications for permits were cancelled.

Of 3,135 renewal applications sent to those whose permits were to expire June 30, 1936, 2,906 were returned to the Department requesting renewal; and on account of the advertisers failing to renew, 223 permits were cancelled. The number of renewal applications approved was 2,683. The total number of permits in force Nov. 30, 1935, was 2,783.

Receipts and Expenditures.—The total receipts for the year ending Nov. 30, 1935, were \$9,202.11 and the expenditures were \$15,253.09.

The Removal of Signs.—The "Sign Patrol" consisting of small trucks completely equipped for the work, have removed 60,000 signs during the year in addition to 5,000 removed by other agents of the Department, under authority of section 30A, Chapter 93, General Laws, from within the highways and from private property.

Injunction.—On June 19, 1925, a temporary injunction was granted to the General Outdoor Advertising Company and others, complainants in an action against the Department of Public Works, restraining the Department from enforcing its rules and regulations against the complainants as to all existing signs and advertising devices maintained by them. On Jan. 10, 1935, the Supreme Court of the Commonwealth rendered its decision in the billboard case and upheld the right of the State to regulate and restrict outdoor advertising. The injunction thereafter became legally ineffective but its terms were continued by mutual agreement pending the outcome of the complainants' appeal to the United States Supreme Court. This is the situation at present, with a prospect of an early disposition of the pending appeal, which, if favorable to the Department, will place all "injunction boards" under State Control. It is estimated that there are approximately nine thousand such boards now maintained throughout the Commonwealth.

REGISTRY OF MOTOR VEHICLES

The 1935 statistics continue the increases in the various classes of applications handled. Inquiries by telephone, by letter, and at the counter for information from records and data in the files remain heavy and the number and nature of these inquiries, although not an item showing anywhere in the reports of the Registry, account for a sizeable proportion of the work of the clerical force.

Highway safety, the ever-present problem of the Registrar, received every possible attention during the year. The required annual inspection of motor vehicles was made semi-annually and, so far as possible, particularly on week-ends and holiday periods, the services of inspectors and examiners not required on their regular work of investigating fatal and serious accidents and giving examinations were utilized on law enforcement work. In many instances, inspectors worked with the local police and in this way, and others, the police, as well as the various safety committees, continued their co-operation in matters having to do with highway safety.

The second annual rush for registration plates in the new building was carried on even more effectively than the year before and, as usual, a large detail of State police contributed to the efforts made to handle the large proportion of the public who still insisted on waiting until the last few days of the year to secure their plates.

The initial installation of the teletypewriter service of 1934, connecting the Worcester and Springfield offices with the Boston office, was extended to Pittsfield. In addition, a new line, connecting Lawrence and Lowell, was installed and later during the year the Lynn office was added. A new line, connecting Fall River and New Bedford, with the Boston office, was installed and later Quincy and Brockton were added to this line. These machines made available to these branches, and therefore to the public being served at these various branches, almost immediately, any information they may require from the records at Boston.

The Diebold system of cash guards, consisting of a cash drawer which automatically deposits money in a safe below, all equipped with holdup and burglary alarms and time-locks, were installed at all of the tellers' cages at the Boston office and also in the cashier's office. These cash drawers and strong boxes, equivalent to safes, are all hooked up to the American District Telegraph Company Burglary and Holdup Alarm System, and a number of foot and hand buttons at convenient points at the Registry counters and lobbies offer considerable protection in the case of a daylight holdup or night burglary. When an alarm is sounded all of the cash drawers close, the safes are all locked and nobody can open the safes and get at the money until the allowed period of time has elapsed, and further an alarm is sounded at the A. D. T. switchboard where, in turn, the holdup is reported to the police and over the radio and teletype, etc.

A few of the outstanding figures for the year as compared with those of the previous year are as follows:

	1934	1935
Motor vehicle certificates of registration issued	945,488	968,553
Compulsory insurance cancellation notices received	86,406	79,401
Licenses to operate issued	1,053,527	1,077,880
Examinations of applicants for licenses	83,031	82,136
Licenses and registrations revoked and suspended	52,505	52,317
Licenses revoked for driving under influence of liquor	5,717	6,264
Total number of applications handled	2,076,600	2,125,898
Gross receipts from fees	\$6,202,907.26	\$6,310,424.28

REGISTRATIONS OF PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES

The following registration figures show a 2.47% increase in passenger registrations and a 1.74% increase in commercial registrations over the previous year, while the motor cycle registrations happened to be identical for both the years 1934 and 1935.

	1905	1915	1925	1929 ¹	1934	1935
Passenger cars . . .	4,889	90,580	663,858	905,636	831,853	852,934
Commercial vehicles . .	—	12,053	100,480	113,268	112,260	114,244
Motor cycles . . .	553	9,520	10,333	6,168	1,375	1,375
Totals	5,442	112,153	774,671	1,025,072	945,488	968,553

EXAMINATIONS FOR LICENSES

The system of examining prospective operators of motor vehicles was not changed in any respect during the year 1935, the appointment system being continued and the examination consisting of the usual demonstration on the highways, a reading test, an eye test, and a test of the applicant as to his knowledge of the motor vehicle law. The number of persons examined decreased slightly at the fifty-five examining points with the following results:—

	1934	1935
Operators passed	73,900	74,598
Operators unfit	8,037	7,058
Restriction removal, passed	1,765	1,244
Restriction removal, unfit	176	125
"Competency," passed	208	212
"Competency," unfit	37	23
Total examinations	84,123	83,260

BRANCH OFFICES

The larger branches of the Registry of Motor Vehicles are equipped with teletype machines which enable them to render practically every service to the public that is rendered at the main office in Boston, including hearings with regard to the suspension and restoration of licenses and furnishing all data from records of the central office. Each branch office serves as a headquarters for the district in which it is located, both as to the issuance and distribution of number plates and licenses, and law enforcement.

Three new offices were opened in November this year, one at Haverhill, one at Waltham, and one at Malden. The work of these branches for the few days they were open during the fiscal year is included in the figures for Boston.

The following table gives the approximate figures:—

APPROXIMATE DISTRIBUTION OF REGISTRATIONS, LICENSES, ETC.

	Regis- trations	First Licenses	License Renewals	Miscel- laneous	Totals
Boston:					
Counter . . .	210,000	—	181,000	99,000	490,000
Mail . . .	162,000	—	390,000	10,000	562,000
Examination . . .	—	23,000	—	2,000	25,000
Pittsfield . . .	22,000	2,300	20,000	6,000	50,300
Springfield . . .	53,000	6,500	59,000	20,000	138,500
Greenfield . . .	11,000	1,500	11,000	4,500	28,000
Northampton . . .	13,000	1,000	12,000	4,500	30,500
Worcester . . .	49,000	7,000	50,000	20,000	126,000
Fitchburg . . .	19,000	1,500	17,000	6,000	43,500
Framingham . . .	24,000	2,000	17,000	8,000	51,000
Lawrence . . .	31,000	4,000	32,000	10,000	77,000
Lowell . . .	23,000	3,000	23,000	7,000	56,000
Fall River . . .	23,000	4,000	23,000	7,000	57,000
New Bedford . . .	22,000	2,500	27,000	8,000	59,500
Lynn . . .	50,000	7,000	48,000	16,500	121,500
Quincy . . .	31,000	5,500	35,000	12,500	84,000
Brockton . . .	37,000	3,000	34,000	14,500	88,500
Hyannis ² . . .	12,000	2,000	7,000	3,500	24,500
	792,000 ⁴	75,800	986,000	259,000 ³	2,112,800

¹ Peak year.² Includes Oak Bluffs and Nantucket.³ This figure includes approximately 182,000 number plate reissues.⁴ Does not include reissues (see Miscellaneous).

COMPULSORY MOTOR VEHICLE LIABILITY INSURANCE

The following figures show the volume of papers received and notices mailed in connection with the carrying out of the law regarding compulsory motor vehicle Causes for Cancellation of Policies:

liability insurance.	1934	1935
For non-payment of premiums	56,901	61,413
For other reasons	29,505	17,988
Total	86,406	79,401
Origin of requests for Cancellation of Policies:		
Insurance companies	80,550	49,204
Finance companies	5,856	30,197
Total	86,406	79,401
Disposition of applications for cancellation:		
Replacement certificates, adjusting cancellations	7,046	6,524
Reinstatements, adjusting cancellations	40,550	43,394
Sets of plates returned before effective date of cancellation	10,432	5,080
Revocations	28,378	24,403
Total	86,406	79,401
Return of Plates:		
Returned promptly after revocation	16,481	13,503
By Police and Registry Inspectors	7,525	6,510
Not returned	4,372	4,390
Total revocations	28,378	24,403

PROPERTY DAMAGE

Under the provisions of Section 22A of Chapter 90, General Laws, the Registrar may, upon receipt of evidence satisfactory to him, suspend the license of any operator who has failed to satisfy a judgment rendered against him after sixty days in any case in which such operator is the defendant in an action brought to recover damages for injuries to property arising out of the use, operation or maintenance on the ways of the Commonwealth of a motor vehicle or trailer.

The following figures indicate the number of cases in which successful plaintiffs availed themselves of the additional facilities provided in the law for recovering damages and the action taken thereon:

	1934	1935
Complaints received	410	560
Releases received, no action being necessary	82	141
Licenses or right to operate suspended	328	419
Licenses or right to operate reinstated after suspension	138	206

AIRCRAFT

Another stride in aviation in Massachusetts was made this year when the Legislature enacted as the aviation law of Massachusetts the Uniform Aeronautical Code, repealing thereby the existing aviation statutes. Massachusetts was the 37th state in the Union to adopt the Uniform Aeronautical Code and under this law (effective October 14, 1935) every pilot and owner, both resident and non-resident, must obtain a Federal license and subsequently register such license with the state.

In the following statistics, special attention is directed to the fact that not a single fatal airplane flying accident occurred and accidents involving personal injuries dropped 20 per cent, which important improvement we attribute to rigid enforcement.

The program to have every community in the state air marked is well under way with 11 new markers already completed under the sponsorship of this section.

Close co-operation with the Bureau of Air Commerce of the Federal Government, the Governor's Committee on Aeronautics, the Federal ERA and aviation officials of other states has been accomplished, so that Massachusetts is doing everything possible to further and promote the progress of aviation within its boundaries.

The following figures summarize the work of the Aviation Section:

	1934	1935
Pilots' licenses issued	13	2
Pilots' permits issued	260	255
Pilots examined by flight tests	7	0
Pilots checked	275	275
Aircraft registered	22	12
Aircraft permits issued	242	223
Aircraft inspected	315	249
Duplicates and certified copies issued	6	2
Fees received	\$376	\$142
Suspensions of licenses and rights to fly	38	20
Aircraft grounded	76	61
Reinstatements of licenses, rights and groundings	81	58
Court prosecutions	0	2
Rulings promulgated	1	0
Airport disapproved	1	0
Survey of fields	86	25
Surveys of buildings for air marking	0	17
Air markers completed under our promotion	0	11
Investigations by aircraft inspectors	1,116	1,051
Airplane accidents	53	48
	1934	1935
Fatal accidents	3	0
Personal injury accidents	12	8
No injury accidents	38	40
Persons killed	6	0
Persons injured	20	16
Ground accidents		
Fatal accidents	0	1
Personal injury accidents	0	2
No injury accidents	13	4
Persons killed	0	1
Persons injured	0	2

INSPECTION OF MOTOR VEHICLE EQUIPMENT

Operating under new regulations made by the Registrar, two inspections of all vehicles registered in the Commonwealth were conducted at official inspection stations designated by the Registrar.

The great majority of these stations have now been operating under the supervision of the Equipment Section for a period of five or six years and, in general, perform the work honestly and efficiently. It was found necessary to cancel 118 stations because of faulty equipment work, failure to comply with instructions, or overcharging.

The inspections were held during the months of May and September. The results of the inspections confirmed the opinion previously held that one inspection a year is not enough to secure the desired results, but that by means of two inspections, motor vehicle equipment was maintained in reasonably good condition throughout the year. It was also found, as might be expected, that brakes, lights and other equipment were in better condition when inspected in September than in May. Approximately 800,000 pleasure cars, trucks, trailers and buses were inspected during each period. The results may be summarized as follows:

	May	September
O.K.	26%	36%
Foot Brake Defective	22%	17%
Emergency Brake	13%	10%
Lights	59%	49%
Horn	2%	3%
Muffler	1%	1%
Steering Gear	2%	3%
Windshield Cleaner	3%	4%
Number Plates	2%	1%

School Bus Inspections

As required by Chapter 271 of the Acts of 1932, the Equipment Section examined or supervised the inspection of all school buses operated in Massachusetts under contract with cities or towns or owned by cities or towns five times during the year, during the first weeks of January, March, May, September and November. In each case, about 775 vehicles were submitted for inspection. The inspections in January, March and May were conducted under the system which had been in effect for the three years previous, the vehicles being examined by inspectors attached to this department at various designated examining points throughout the state. The September and November inspections were made under the supervision of this Section at official inspection stations. This change in the examining system was made in order to relieve inspectors of this department for more important duties, consisting principally of enforcement and equipment work on the highways. The improvement in school bus equipment previously noted and referred to in the last annual report was continued. Many new buses have been put in operation to replace those which failed to meet the requirements of the School Bus Act, but which were protected by the provisions of that Act for a period of three years if under contract on August 26, 1932.

Brakes, Lights and Overloads

During the greater part of the year, only 18 men were regularly assigned to equipment work. Beginning early in October, however, the Registrar reduced investigating and examining work to a minimum, which permitted practically full-time services of approximately 75 men for enforcement and equipment work. That this law enforcement on the road, directed particularly to motor vehicle brakes, in conjunction with the two equipment inspections held during the year, was effective in reducing accidents was reflected in the accident statistics for the year, showing a decrease of approximately 14% in fatal accidents and 9% in non-fatal accidents. In addition to their duties in connection with the periodic inspections of motor vehicles and school buses, including the direction of the work of over two thousand official inspection stations, the inspectors assigned to equipment work did considerable road work in enforcing the laws and regulations respecting equipment. This work may be summarized as follows:

Reports of Defective Equipment	3,578
Reports of Overloading	205
Light tags issued	50,872
Brake tags issued	6,975
Reports of Vehicles not Inspected	1,389

Reports received and tags issued by the inspectors led to the revocation or suspension of 1,784 registrations for the following reasons:

Defective Brakes	1,028
Defective Lights	375
Defective Windshields	52
Failure to be Inspected	141
Overloading	19
Miscellaneous	149

Equipment Inspectors also reported 2,863 cases of improper operation for action by the Registrar, leading to suspension of license or other action.

Headlamps, Tail Lamps and Reflex Reflectors

No new headlamps were approved, but several extensions of approval were granted during the year. Approval was granted to 16 new tail lamps and 8 reflex reflectors.

MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS

Deaths in connection with the operation of motor vehicles in the year 1935 numbered 795, a decrease of 126 or 13.7% as compared with the record of the previous year. A comparative table of classified fatalities, injuries and collisions in the years 1934 and 1935 is as follows:

Motor Vehicle Accidents to Persons

	Persons Killed		Persons Injured	
	1934	1935	1934	1935
Pedestrians by autos	529	471	15,761	14,306
Pedestrians by motorcycles	0	0	41	22
Pedestrians near street cars	5	3	24	49
Occupants of autos	313	265	35,187	31,750
Occupants of autos at R. R. crossings	20	14	46	36
Occupants of motorcycles	14	12	173	161
Bicycle riders	16	7	950	981
Occupants horse-drawn vehicles	4	3	226	148
Coasters on sleds	18	17	537	837
Coasters on wheels	2	3	110	131
Totals	921	795	53,055	48,421
	Children Killed		Children Injured	
	1934	1935	1934	1935
Boys	120	91	6,891	6,597
Girls	60	36	3,744	3,468
Totals	180	127	10,635	10,065

Number of Collisions

	1934	1935
Collision with pedestrian	15,888	14,619
Collision with automobile	22,015	20,143
Collision with horse-drawn vehicle	285	197
Collision with railroad train	37	29
Collision with street car	352	305
Collision with fixed object	2,299	1,961
Collision with bicycle	970	997
Non-Collisions (overturn)	804	754
Collision with motorcycle	229	187
Collision with sled	481	740
Collision with animal	103	70
Coaster on wheels	112	136
Totals	43,575	40,138
In the daytime	25,283	24,081
After dark	18,292	16,057
Totals	43,575	40,138

ACCIDENT REPORT LETTERS

As provided by section 26, chapter 90, General Laws, every operator of a motor vehicle in any manner involved in an accident in which any person is killed or injured is required to report in writing to the Registrar. The number of these formal accident reports received from operators in 1935 was 44,624 as compared

with 46,651 received in 1934. Under the requirements of section 29, chapter 90, General Laws, 18,304 similar reports of accidents were received from police departments throughout the State in 1935 as against 19,895 received in 1934. In addition, in connection with this reporting of accidents by operators during the year 1935 there were received 10,369 letters of complaint reporting improper operating, as compared with 11,115 such letters in 1934.

COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, LICENSES, DEATHS, INJURIES, REVOCATIONS AND SUSPENSIONS

Year	Automobiles Registered	Motor- Cycles Registered	Total Regis- trations	Number of Persons Killed	Number of Persons Injured	Licenses Issued	Total Sus- pensions and Revo- cations	For Operat- ing Under Influence of Liquor
1910	31,360	3,358	34,718	77	963	41,259	283	22
1911	38,907	3,658	42,565	110	1,248	51,950	360	14
1912	50,132	5,034	55,166	142	1,962	66,645	546	56
1913	62,660	7,127	69,787	188	2,923	81,034	608	87
1914	77,246	8,161	85,407	229	4,010	99,532	858	131
1915	102,633	9,520	112,153	294	6,197	133,935	1,153	202
1916	136,809	10,713	147,522	315	9,131	171,596	1,396	320
1917	174,274	11,065	185,339	438	7,282	214,229	1,831	485
1918	193,497	12,862	206,359	499	8,598	235,140	2,343	553
1919	247,183	13,698	260,881	582	16,287	297,968	2,156	554
1920	304,538	15,142	319,680	481	21,182	261,539	2,944	888
1921	360,731	12,058	372,790	544	11,487	380,519	4,899	1,508
1922	449,838	11,675	461,513	522	15,277	444,173	8,369	2,460
1923	566,150	11,733	577,883	578	16,217	536,819	11,613	3,333
1924	672,315	10,778	683,093	709	19,579	620,439	14,154	4,395
1925	764,338	10,333	774,671	755	25,736	698,378	16,249	4,654
1926	826,224	9,215	835,439	705	25,351	763,951	18,705	4,863
1927	819,703	7,245	826,948	693	31,721	814,094	31,252	4,983
1928	883,595	6,656	890,251	715	42,201	870,160	40,814	5,071
1929	1,018,904	6,168	1,025,072	777	46,111	944,338	53,133	5,381
1930	1,008,476	4,642	1,013,118	795	44,279	982,795	52,954	5,052
1931	1,006,808	3,068	1,009,876	793	48,837	1,024,304	63,841	5,535
1932	921,909	1,661	923,570	768	47,658	1,014,635	73,511	4,824
1933	930,493	1,023	931,516	769	48,249	1,022,662	56,691	4,274
1934	944,113	1,375	945,488	921	53,055	1,053,527	52,505	5,717
1935	967,178	1,375	968,553	795	48,421	1,077,880	52,317	6,264

INVESTIGATIONS AND PROSECUTIONS BY INSPECTORS

Investigations were made under the direction of the Chief Inspector relative to fatal and non-fatal accidents, violations of the laws concerning brakes and headlights, inspection of garages, miscellaneous complaints, and the prosecution of motorists in court. The table below shows the wide range of these activities of the inspectors, and shows a decrease in the total number of cases handled. This decrease, however, is due to the far greater amount of enforcement work done on the road by the inspectors.

Classification of Reports

	1934	1935
Accidents, fatal	848	778
Accidents, non-fatal	5,406	5,279
General reputation	6,649	6,246
Miscellaneous	13,799	13,386
Totals	26,702	25,689
Complaints filed	14,287	15,384
Official stations inspected	9,700	13,829
Headlights, brakes, etc.	21,295	*62,962
Prosecutions	1,004	839
Amount of fines	\$26,158	\$26,870

Revocations and Suspensions

	1934	1935
Licenses suspended	10,818	12,646
Licenses revoked	4,205	4,452
Rights suspended	4,838	5,302

* Increase due in part to change to semi-annual equipment examinations.

P. D. 54		69
Rights revoked	295	285
Certificates suspended	1,592	2,966
Certificates revoked	28,549	24,561
Certificates and licenses suspended	27	26
Certificates and licenses revoked	1,947	1,849
Certificates revoked and rights suspended	141	124
Rights in Massachusetts suspended	93	106

Totals	52,505	52,317
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Resulting from investigations	12,541	13,171
Resulting from court convictions	9,886	12,394
Resulting from police complaints	1,578	1,969
Resulting from judges' complaints	8	3
Resulting from state police complaints	116	377
Resulting from insurance cancellations	28,376	24,403

Totals	52,505	52,317
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Character of Offenses

	1934	1935
Reckless and endangering life	1,570	1,774
Liquor convictions	4,927	4,917
Going away after accidents	388	385
Without authority	706	596
Racing	4	0
Improper person	5,330	5,394
Improper person, liquor	790	1,347
Improper operation	6,962	5,858
Two overspeeds	38	111
Three overspeeds	6	3
Insurance cancellations	28,376	24,403
Insurance convictions	335	352
Improper equipment, miscellaneous	146	513
Improper equipment, lights	102	357
Improper equipment, brakes	278	1,000
Failure to display stickers	73	0
Fatal accidents	847	743
Property damage cases	325	388
Other offenses	262	193
New parking violations	999	3,447
Overloading, trucks	41	19
Sixty milers	—	495
Four complaints	—	22

Totals	52,505	52,317
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Formal hearings	8,703	8,995
Court recommendations adopted: —		
Reckless and endangering	32	19
Going away after accidents	5	2
Without authority	0	0
Allowing improper person to operate	0	1

Totals	37	22
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Persons whose licenses were suspended or revoked and who had to pass examination in order to have them returned	3,621	4,620
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ANALYSIS OF COURT ABSTRACTS RECEIVED

Number of courts forwarding abstracts	95	95
Total abstracts received	48,443	51,695
Number of abstracts recording convictions	32,034	29,899

Offenses

(Analysis of convictions, not including appeals)

	1934	1935
Overspeeding	7,565	9,399
Reckless driving	8	43
Operating under influence of liquor	5,306	3,940
Using auto without authority	1,334	762
Endangering lives	2,499	1,976
Not stopping after causing injury	908	761
Without license	2,795	2,566
Without registration certificate	580	417
Unregistered vehicle	398	374
Improper display or no register number	147	198
Refusing to stop on signal	271	394
Unlighted lamps	376	287
Not signalling	3	3
Dazzling lights	0	7
Operating within 8 feet of street car	54	67
Violation of Metropolitan Park rules	292	94
Operating after suspension or revocation of license	657	496
Larceny	358	183
Manslaughter	1	4
Miscellaneous	1,303	799
Lenses not approved	0	0
No reflector	0	6
Racing	5	1
Operating after registration certificate revoked	2	3
No rear light	20	57
Not displaying lights	36	296
Passing red light	484	347
Improper lights	157	80
Brakes not as required by law	209	263
Violation of insurance law	408	401
Not slowing down approaching pedestrian	18	39
Not slowing down at intersecting way	3,980	3,859
Violation of law of road	1,723	1,657
Perjury—making false statements on license application, falsely impersonating or conspiring to obtain a license	40	22
Loaning license to another	5	11
Allowing intoxicated person to operate	4	10
No windshield cleaner	0	1
Attempted larceny	33	13
Allowing improper person to operate	55	73
Totals	32,034	29,899

USED CAR SECTION

(Motor Vehicle Identification)

The following is a résumé of the work accomplished by the Used Car Section which indexes, under engine numbers, all motor vehicles registered and reported stolen, and checks reports of sales of used cars against the stolen-vehicle records. Dealers' and repairmen's plates and registration certificates are issued by this section.

The work of the section is summarized in the following tables: —

Dealers

	1934	1935
Total number of first-class dealers reporting	1,178	1,187
Total number of second and third-class dealers reporting	568	559
Total number making reports to this office	1,746	1,746

Reports

Approximate number of notices of intended sales received daily	309	302
Approximate number of dealers' reports received daily	953	1,107

Motor Vehicles Stolen

Number stolen in Boston	5,121	4,479
Number stolen in Massachusetts (including Boston)	7,427	6,022
Number reported stolen from various sources throughout the country, including Massachusetts	21,868	20,245
Number of motor vehicles recovered through information furnished by this office	385	283

Engine and Serial Numbers

Engine numbers assigned to cars	16	13
Certificates issued authorizing the replacement of engine numbers	588	379
Certificates issued authorizing the replacement of serial numbers	252	167
Certificates issued authorizing the replacement of both engine and serial numbers	16	20
Total number of authorization certificates issued	856	566

EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS

The department was represented at meetings of the Conference held at Hartford, Conn., May 16 and 17, and New York City October 24 and 25, 1935.

Many matters of common interest to the motor vehicle administrators of the member states were studied and discussed, including programs for highway safety campaigns, methods for procuring uniform enforcement of motor vehicle laws, methods for controlling the speed of motor vehicles, instruction in high schools on motor vehicle operation, physical and mental examination of motor vehicle operators, curbing motor vehicle thefts, the problem of the drunken operator, and the procedure in suspension and revocation of operators' licenses.

The meetings resulted in beneficial gains of knowledge concerning the constantly increasing duties and problems of the administrators, and served to renew a strong spirit of cordial and helpful co-operation.

ANALYSIS OF RECEIPTS

The fees received for the year 1935, together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table:

Certificates of Registration:

Passenger cars (including taxicabs)	848,406	\$2,458,421	80
Commercial cars	114,244	1,282,453	42
Busses	4,528	107,830	50
Trailers	506	25,623	50
Motor cycles	1,375	1,859	75
Manufacturers or Dealers (including repairers)	3,228	9,683	00
Manufacturers or Dealers additional cars (including repairers)	18,027	54,080	00
Licenses to operate:			
Original licenses	75,807	151,567	00
Renewal licenses	1,002,073	2,003,937	50

Examinations	65,484	\$130,968 00	
Re-examinations	16,652	16,652 00	
			147,620 00
Total examinations	82,136		
Copies of certificates and licenses furnished		35,830	35,829 50
Duplicate number plates furnished		15,545	15,543 25
Miscellaneous receipts, process fees, etc.			15,975 06
Total amount of fees			\$6,310,424 28
Motor vehicle fees rebated (deducted)			64,716 68
Net fees			\$6,245,707 60
Court fines received by the Treasurer and Receiver-General ¹			43,035 83
Total receipts (not including gasoline tax ²) credited Highway Fund Account, 1935			\$6,288,743 43

¹ Beginning January 1, 1935, due to an amendment of the law (Acts of 1934, Ch. 364), the motor vehicle fines are turned over directly to the various cities and towns.

² Receipts from the gasoline tax are credited to the Highway Fund but are collected through the office of the Commissioner of Corporations and Taxation.

EXPENSES OF THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles for the year 1935 was \$1,461,200.75 which was 23% of the net fees collected. This cost, deducted from the receipts for the year, left the sum of \$4,827,542.68 available for legislative appropriation for highway work.

ANALYSIS OF EXPENDITURES FOR THE FISCAL YEAR 1935

Payrolls

Personal Services:

Regular payroll	\$935,062 60	
Temporary employees' payroll	27,412 41	
Overtime payroll	6,434 93	
		\$968,909 94

Expenses

Supplies:

Books, maps, etc.	\$942 93	
Typewriter supplies	1,750 56	
Adding machine repairs and supplies	25 30	
Other supplies	4,652 21	
Stationery	17,016 97	
Typewriter repairs	188 90	
• Other repairs	725 21	
		\$25,302 08

Equipment and Furniture:

Typewriter machines	\$5,926 84	
Adding machines	1,643 62	
Other machines	7,629 70	
Desks	679 01	
Bookcases, tables, etc.	662 38	
Filing cabinets	5,416 11	
Chairs	408 63	
Dictograph	1,785 85	
Soundex	27,151 32	
Headlight Equipment	1,877 72	
Diebold Installation	3,951 00	
Burglar Alarm System	261 48	
Uniforms	5,342 00	
Branches — Counters, Safe	3,168 65	
		\$65,904 31

Traveling Expenses:

Officials	\$1,400 45
Employees	18,191 42
Aviation	3,593 62
Automobiles (owned by employees)	76,764 21
Automobiles (owned by State):	
Maintenance of 12 automobiles	4,305 71
Purchase of 1 automobile	309 48

 \$104,564 89

Other Services and Expenses:

Expressage	\$3,899 25
Postage	81,537 08
Paper for printing	9,383 02
Printing:	
Other reports	2,140 63
Other printing	11,610 05
Telephone	5,155 11
Premium on Bonds of Employees	460 62
Rent	300 00
Cleaning and Janitor Services	837 00
Labor	1,022 10
Number plates	131,647 00
Direct Mail Lists	11,000 00
Sundries	359 25

Branch Offices:

Rent, Telephone, Lighting	27,194 91
Labor and Services	6,336 75
Supplies and Express	2,674 49

 \$295,557 26
Publicity for Safety Work

Labels, tags, postage and printing	\$962 27
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 \$1,461,200 75
Summary

Payrolls	\$968,909 94
Expenses	491,328 54
Publicity for Safety Work	962 27

 \$1,461,200 75
RELATING TO WATERWAYS AND PUBLIC LANDS**BOSTON HARBOR****The Commonwealth Flats at South Boston***Commonwealth Pier 5*

The work necessary to maintain the effective operation of the pier has been continued during the year. Repairs have been made to gangways and floating fenders, to elevators and elevator machinery and to the heating plant.

Under contract of Oct. 30, 1934, with W. H. Ellis and Son Company repairs to pile and timber work were completed Feb. 8, 1935, at a contract cost of \$2,680.40.

Repairs to roof coverings at the pier, under contract of Nov. 7, 1934, with the Atlantic Roofing and Skylight Works, were completed May 21, 1935, at a contract cost of \$310.97.

The painting of doors and sash in the Headhouse, under contract of Nov. 13, 1934, with John S. Leonard, was completed Dec. 21, 1934, at a contract cost of \$285.

Under contract of Nov. 13, 1934, with Maurice M. Devine for replacing existing steel sash and broken glass in the lightwells, work was completed Apr. 17, 1935, at a contract cost of \$7,150.

Repairs to the linings of the boilers at the heating plant, under letter contract of July 25, 1935, with Plibrico Jointless Firebrick Company, were completed July 31, 1935, at a contract cost of \$569.22.

The Department of Public Safety requested in September authorization for the use of space for offices on the second floor of the pier. Under an agreement executed in November the use of about 28,700 square feet of space was granted at a rental of \$28,000 per year. To provide adequate quarters for office use it has been necessary to install additional plumbing and to build partitions.

A contract was made on Nov. 5, 1935, with Morris Slotnick for the construction of wood frame and glass office partitions. This work was completed Nov. 23, 1935, at a contract cost of \$5,715.15.

Under letter contract of Nov. 19, 1935, with John A. Gerrity additional plumbing is now being installed.

The serious damage by marine borers to the foundation piles of the pier was shown by examinations made by divers in 1934 and 1935. To ensure the safety of the structure it has become necessary to reconstruct the platform foundations and decks.

In October the Department secured the services of Fay, Spofford and Thorn-dike, consulting engineers, upon a project for such reconstruction. After the necessary preliminary examinations and borings were made, plans for the work needed were submitted to the Federal Emergency Administration of Public Works with a request for a grant to aid in financing the reconstruction estimated to cost approximately \$819,000. This work has been approved as Public Works Administration Project No. Mass. 1301.

Plans and specifications for the removal of the existing pile and concrete platforms at the pier and the building of a new concrete platform consisting of a concrete deck slab supported by steel girders and beams on caisson and pile foundations, have been approved by the Federal authorities, and proposals for the work have been invited by public advertisement by the Department.

A summary of freight and passengers using the pier in 1935 follows:

NUMBER OF TONS FREIGHT AND PASSENGERS HANDLED AT COMMONWEALTH
PIER No. 5, DURING YEAR ENDING NOVEMBER 30, 1935

SS. Line	Number of Ships	In Freight (Tons)			Out Freight (Tons)			Passengers		Total
		R.R.	Truck	Total	R.R.	Truck	Total	In	Out	
Amer.-Haw. S.S. Co. . .	100	30,102	97,335	127,437	9,747	34,443	44,190	—	—	—
Luckenbach S.S. Co. . .	62	6,038	77,157	83,195	5,954	23,661	29,615	—	—	—
Norton, Lilly & Co. . .	22	4,071	7,834	11,905	—	—	—	—	—	—
Cunard White Star . . .	6	142	905	1,047	142	285	427	205	240	44
Can. Nat. SS. Co. . . .	82	170	894	1,064	—	71	71	3,250	3,263	6,51
Italian Line	11	—	99	99	104	134	238	—	1,604	1,60
Byron SS. Co.	6	—	—	—	—	—	—	—	584	58
French Line	1	—	—	—	—	—	—	—	126	12
Holland Amer. Line . .	1	—	—	—	—	—	—	—	159	15
Peabody & Lane	1	—	—	—	80	—	80	—	—	—
John G. Hall & Co. . .	1	—	—	—	26	—	26	—	—	—
Summaries	293	40,523	184,224	224,747	16,053	58,594	74,647	3,455	5,976	9,43

DEVELOPMENT OF LAND SOUTH OF SUMMER STREET

The seven sections of Storehouse No. 1 on E Street have been occupied during the year by the Wiggin Terminals, Inc.

The work of repairing the roof of the building and of installing skylights under contract of Nov. 7, 1934, with the Atlantic Roofing and Skylight Works was completed May 21, 1935, at a contract cost of \$13,849.09.

THE COMMONWEALTH FLATS AT EAST BOSTON
Aircraft Landing Field — Boston Airport

The greater part of the area reclaimed by the Commonwealth at East Boston continues to be occupied by the city of Boston as an airport. On Aug. 10, 1928, under authority of Chapter 64 of the Resolves of that year, the Department leased to the city approximately 5,717,000 square feet of land for this purpose. The use of an additional area of 4,210,760 square feet was authorized by a lease executed

July 14, 1930, in accordance with the provisions of Chapter 53 of the Resolves of 1930. The matter of the lease to the city of two additional parcels, one northeasterly of the areas leased in 1928 and 1930, the other southeasterly of the parcel leased in 1930, is still pending.

The use of these areas by the city is subject to certain rights of occupancy and use granted by lease of June 30, 1922, to the War Department, with an option of annual renewals to June 30, 1937, by a supplementary agreement of Dec. 27, 1926.

RECLAMATION OF FLATS

The work of dredging and filling at East Boston under contracts made by the Department for the purpose of reclaiming flats has been in abeyance since 1923. Between that year and Nov. 30, 1935, approximately 2,972,000 cubic yards of material dredged from various locations in the harbor have been deposited in the receiving basin. In the year ending Nov. 30, 1935, about 104,500 cubic yards were dumped upon flats northerly of Governors Island. The Commonwealth has reclaimed approximately 150 acres of land at East Boston.

Under licenses granted for building bulkheads, dredging and filling, the city has reclaimed for the extension of the airport about 140 acres.

COMMONWEALTH PIER 1, EAST BOSTON

This pier has been used and occupied during the year by John G. Hall and Company, Inc., under the terms of the lease of Nov. 20, 1934.

Work under contract of Oct. 30, 1934, with W. H. Ellis and Son Company for repairs to pile and timber work at this pier was completed Feb. 12, 1935, at a contract cost of \$2,488.78.

The erection of sliding doors and the replacing of door sills with new timber, under contract of Nov. 13, 1934, with Ray Wason, was completed May 7, 1935, at a contract cost of \$2,575.02.

The building of a movable gangway on the east side of the pier, under contract of Nov. 20, 1934, with Waghorne-Brown Company, was completed Feb. 12, 1935, at a contract cost of \$1,844.

Amount expended during the year, \$9,669.37.

Income received from the pier during the year, \$8,141.90.

BOSTON HARBOR — REMOVAL OF ABANDONED HULKS OF WRECKS

On Aug. 13, 1934, a contract was made with the M and R Construction Company to remove the wreck of the tow boat "Esther Rendle" from tide water at property of the National Dock and Storage Warehouse Company and to dispose of the material above the high water line, at a contract price of the lump sum of \$723. This work was completed Sept. 28, 1935, at a contract cost of \$723.

CASTLE ISLAND BULKHEAD

Work under contract of Nov. 27, 1934, with John P. Cavanagh for removing about 980 linear feet of the southeasterly end of the bulkhead extending from the Reserved Channel toward Castle Island and for repairing designated portions of the remaining bulkhead and the bulkhead on the south side of the Reserved Channel, was completed Oct. 29, 1935, at a contract cost of \$3,335.

HOUGH'S NECK, QUINCY

The work by the city of Quincy in building at Hough's Neck a granite sea wall about 840 feet long with riprap protection along the base, and in constructing two stone jetties, has been in progress during the year under the agreement with the Department authorized by Chapter 322 of the Acts of 1934. About ninety-two per cent of the project has already been completed.

MYSTIC RIVER DREDGING

The work of dredging a channel in Mystic River to a depth of 20 feet at mean low water from a point about 1,000 feet below Malden Bridge to a point about 900 feet above, under contract of Sept. 11, 1934, with the J. S. Packard Dredging Company, was completed Dec. 28, 1934, at a contract cost of \$19,802.44.

On July 2, 1935, a contract was made with the J. S. Packard Dredging Com-

pany to dredge two areas in Mystic River in Boston and Everett, one above and the other below Malden Bridge, to a depth of 20 feet at mean low water, at the following contract prices: for dredging and disposing of the dredged material 54.5 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed Aug. 12, 1935, at a contract cost of \$40,355.60.

TOWN RIVER, QUINCY

A contract was made on Sept. 4, 1935, with the J. S. Packard Dredging Company for dredging a channel in Town River about 80 feet wide, 5,200 feet long, and 10 feet deep at mean low water at the following contract prices: for dredging and disposing of the dredged material 54 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed Nov. 15, 1935, at a contract cost of \$55,104.40.

PLEASANT PARK CHANNEL, WINTHROP

A contract was made on Aug. 27, 1935, with the Bay State Dredging and Contracting Company to dredge certain specified shoal areas in Belle Isle Inlet and Pleasant Park Channel to a depth of 6 feet at mean low water, at the following contract prices: for dredging and disposing of dredged material 56.8 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed Sept. 27, 1935, at a contract cost of \$16,936.62.

WINTHROP HARBOR CHANNEL

A letter contract under date of Sept. 21, 1935, was made with the Bay State Dredging and Contracting Company to dredge to a depth of 9 feet at mean low water, six shoal areas in the channel leading to the Winthrop Yacht Club and the wharf of the Federal Government, at a contract price of the lump sum of \$2,100. The dredging was completed Sept. 26, 1935, at a contract cost of \$2,100.

MARINE BORERS

The investigation of the action of marine borers has been continued during the year by the New England Committee on Marine Piling Investigation, a body organized in 1934 for the purpose, and consisting of representatives of the New England railroads, the Commonwealth of Massachusetts through its Department of Public Works, and the State of New Hampshire through its Highway Department. This committee secured the services of Dr. William F. Clapp, Biologist, to direct these investigations.

Frank C. Shepherd, Consulting Engineer of the Boston and Maine Railroad, served as Chairman of this Committee until his death in August, 1935, when he was succeeded by A. H. Morrill, Assistant Chief Engineer of the Boston and Maine Railroad, the Maine Central Railroad and the Portland Terminal Company.

To determine the activity of the borers test boards have been maintained during the year at locations along the coast from New York to Eastport, Maine. To help this investigation the Department has continued to maintain four test boards in Boston Harbor in the locations established last year.

On Feb. 6 and Aug. 22, 1935, letter contracts were made with C. Ray Norris, diver, for making an examination of the foundation piles at Commonwealth Pier 5, at a price of \$29 per day, the contractor furnishing all labor, tools, appliances and equipment, except the diving scow and the laborers to operate the air pumps provided by the Commonwealth.

Under these contracts 5,121 piles were examined at a contract cost of \$1,305.

SURVEYS

During the year surveys have been made in connection with maintenance and operation of Commonwealth property, and of the wharf lines in Town River, Chelsea Creek and Belle Isle Inlet.

Hydrographic surveys have been carried on in the Charles River between the Railroad Bridge and the Charles River Dam, in Mystic River from Chelsea Bridge North to Wellington Bridge, in Pleasant Park Channel and Winthrop Harbor Channel, along a portion of the Atlantic Avenue waterfront and in Town River, Quincy.

RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, Chapter 91, General Laws, an appropriation to \$100,000 was made during 1935, with the following condition:

"provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered."

An appropriation of \$22,500 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from the tide waters and great ponds.

In addition to these annual appropriations Chapter 464 of the Acts of 1935, approved Aug. 5, 1935, provided not less than \$250,000 to be expended at the discretion of the Commissioner for the improvement development and protection of rivers, harbors, tide waters and foreshores outside of Boston Harbor.

Petitions were filed with the Department during the year for surveys and improvements in the following localities: Allens Harbor, Harwich; Barlow River, Bourne; Connecticut River, Deerfield; Falmouth Inner Harbor, Falmouth; Great Pond, Falmouth; Herring River, Harwich; Katama Bay, Edgartown; Lake Anthony, Oak Bluffs; Lake Tashmoo, Tisbury; Little Bay, Fairhaven; Menamsha Creek, Chilmark and Gay Head; Nobsusset Breakwater, Dennis; Old Silver Beach, Falmouth; Pamet River, Truro; Parker River Shore, Yarmouth; Pleasant Bay, Chatham; Plum Island Basin, Newbury and Newburyport; Plymouth Harbor, Plymouth; Point Shirley sea wall, Winthrop; Point Connett-Angelica Point, dredging and breakwater, Mattapoisett; Rock Harbor, Orleans; Saugus River, Lynn; South Hyannis sea wall, Barnstable; West Falmouth Harbor, Falmouth; West Harwich Shore, Harwich.

Public hearings have been held and estimates of cost made, but no work has been undertaken to carry out improvements petitioned for in Barlow River, Bourne; Katama Bay, Edgartown; Lake Anthony, Oak Bluffs; Lake Tashmoo, Tisbury; Little Bay, Fairhaven; Pamet River, Truro; Pleasant Bay, Chatham; Plum Island Basin, Newbury and Newburyport; Point Shirley sea wall, Winthrop; Point Connett-Angelica Point, dredging and breakwater, Mattapoisett; Saugus River, Lynn.

Information relating to work previously done in various rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands of the Department of Public Works, and in the tables of the Appendix accompanying the present report. These tables show localities, character of work, appropriations and expenditures by the Commonwealth and certain appropriations and expenditures by the Federal Government.

An account of work done during the year 1935, for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor follows:

ALLENS HARBOR, HARWICH

Hearing was held on Jan. 31, 1935, on petitions of the Selectmen of Harwich and others, for dredging the entrance channel to Allens Harbor.

On June 18, 1935, a contract was made with Herbert T. Gerrish to include the dredging in the entrance to Allens Harbor of a channel about 40 feet wide on the bottom and 6 feet deep at mean low water, at the following contract prices: for dredging and disposing of the dredged material on land, flats, or at sea, 43 cents for each cubic yard measured in place; for removing and disposing of boulders \$20 for each cubic yard. Toward the cost of this dredging a contribution of \$1,000

has been made by the town of Harwich. No work has yet been done under this contract.

Amount expended during the year, \$15.75. Total expenditure to Dec. 1, 1935, \$51,378.37.

BARNSTABLE SHORE PROTECTION.

South Hyannis

Hearing was held June 12, 1935, upon petition of the Selectmen of Barnstable and others for a sea wall at Villa Sites, South Hyannis.

On Sept. 3, 1935, a contract was made with Harry L. Jones to build about 1,295 linear feet of concrete sea wall and three stone jetties, each 200 feet long, at the following contract prices: for furnishing material and constructing the concrete sea wall, including all excavation, back filling, removing old walls, crib work, steps, drains and cesspools and all incidental work, \$9.90 for each cubic yard of concrete measured in the completed work; for furnishing and placing stone riprap and granite chips in the jetties, \$3.00 for each ton of 2,000 pounds. No work has yet been done under this contract.

Toward the cost of this shore protection individuals and organizations interested have made contributions amounting to \$3,993.67 and an equal amount has been contributed by the county of Barnstable.

West Beach

Hearing was held Jan. 24, 1935, upon petition of the Selectmen of Barnstable for the building of stone jetties at West Beach at Squaw Island Road to protect the beach and road from erosion.

On Sept. 4, 1935, a contract was made with Frederick V. Lawrence to build four stone jetties at Squaw Island Road, Hyannisport, at a contract price for furnishing and placing granite stone riprap and chips in the jetties, of \$2.84 for each ton of 2,000 pounds. This work is now nearly completed. Toward the cost of this protection of the shore a contribution of \$1,350 has been made by the town of Barnstable and one of an equal amount by the county of Barnstable. Work under this contract is now in progress.

BASS RIVER, BEVERLY

A contract was made on Jan. 8, 1935, with the Bay State Dredging and Contracting Company to dredge a channel 90 feet wide on the bottom and 6 feet deep at mean low water in Bass River, northerly of Bridge Street, at the following contract prices: for dredging and disposing of dredged material 50 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed March 11, 1935, at a contract cost of \$3,499. Toward this cost a contribution of \$2,000 was made by the city of Beverly.

Amount expended during the year, \$3,850.75. Total expenditure to Dec. 1, 1935, \$84,953.51.

BASS RIVER, DENNIS AND YARMOUTH

During the year complaint was made to the Department concerning the condition of the west jetty at the entrance to Bass River. An inspection showed the top of the jetty badly eroded in certain sections and repairs needed.

Because of the difficulty of transporting materials to the site, it was decided to carry out the work on a basis of day labor. By this means a section of wall about 200 feet long has been rebuilt with concrete and a concrete footing placed under other sections for a length of 180 feet, at a cost of \$3,798.89.

Amount expended during the year, \$3,798.89. Total expenditure to Dec. 1, 1935, \$192,092.22.

CAPE COD CANAL LANDING PIER AT BOURNE

The present pier, authorized by Chapter 441 of the Acts of 1931, was completed during 1934. It is of solid fill construction about 100 feet long, providing a depth of 25 feet in the dock at mean low water and a light timber extension about 400 feet long available as a tie-up for vessels along the easterly side of the turning basin. Upon the pier a superstructure 36 feet wide and 200 feet long has been built of brick, steel and timber.

No work except minor repairs has been necessary during the year.

Amount expended during the year for operation, maintenance and improvement, \$4,343.90.

Income during the year, \$4,203.47.

Total expenditure to Dec. 1, 1935, for construction \$264,267.22; for operation and maintenance, \$11,025.18.

CONNECTICUT RIVER

The Department during the year made application to the Work Progress Administration of the Federal Government for approval of projects for the placing of riprap and the building of dikes at several points along Connecticut River to prevent erosion and damage by floods. These projects received tentative approval in the fall of 1935, but no work was done during the fiscal year.

DUXBURY HARBOR, DUXBURY

Hearings were held on Jan. 24 and 31, 1935, upon petitions of the Selectmen of Duxbury and others, for redredging the anchorage basin in Duxbury Harbor.

A contract was made on Apr. 30, 1935, with the Bay State Dredging and Contracting Company for dredging about 25,000 cubic yards of material over an area in Duxbury Bay to a depth of 6 feet at mean low water for a part of the area, and to a depth of 8 feet at mean low water over the remaining portion. The contract prices for this work were: for dredging and disposing of the dredged material 59.6 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This dredging was completed June 6, 1935, at a contract cost of \$15,268.33. Toward this cost a contribution of \$8,000 was made by the town of Duxbury.

Amount expended during the year, \$16,255.30. Total expenditure to Dec. 1, 1935, \$109,104.31.

ELLISVILLE HARBOR, PLYMOUTH

Under a letter contract of June 11, 1935, with Arthur K. Finney a caterpillar crane was furnished, with an operator, for excavating the entrance to Ellisville Harbor. The work was completed July 10, 1935, at a contract cost of \$398. Under this agreement the entrance channel was excavated to mean low water with a bottom width of about 25 feet.

Amount expended during the year, \$435.06. Total expenditure to Dec. 1, 1935, \$21,108.64.

FALMOUTH INNER HARBOR, FALMOUTH

Hearing was held on Jan. 24, 1935, on a petition of the Selectmen of Falmouth, and others, for the deepening of Falmouth Inner Harbor to not less than 10 feet at mean low water.

On May 21, 1935, a contract was made with Herbert T. Gerrish to include the dredging of an anchorage basin to a depth of 10 feet at mean low water in this harbor, at the following contract prices: for dredging and disposing of the excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barriers, 56 cents for each cubic yard measured in place; for removing and disposing of boulders, \$20 for each cubic yard. No work has begun as yet under this contract. A contribution of \$5,000 toward the cost of the dredging has been made by the town of Falmouth.

A contract with William R. Farrell and Son, Inc., was made on Aug. 14, 1935, to include repairs to the west jetty at Falmouth Inner Harbor at the following contract prices: for each ton of heavy stone riprap furnished in place in the completed work \$3.37; for each ton of fine stone chips furnished in place in the completed work \$4.27; for each cubic yard of material excavated and back filled in the completed work \$1.00. These repairs were completed Oct. 22, 1935, at a contract cost of \$3,988.85.

Total expenditure to Dec. 1, 1935, \$154,279.63.

GREAT POND, FALMOUTH

Hearing was held on Jan. 24, 1935, on the petition of the Selectmen of Falmouth, and others, for dredging the entrance channel to Great Pond and building a jetty at its outlet into Nantucket Sound.

A contract was made on May 21, 1935, with Frederick V. Lawrence to excavate a channel about 1,400 feet long and 30 feet wide on the bottom, to a depth of 3 feet at mean low water, and to build a stone jetty about 340 feet long at the entrance of Great Pond to Nantucket Sound. The contract prices for this work were: for excavating and disposing of the dredged material 39 cents for each cubic yard; for removing and disposing of all boulders in excess of one cubic yard in volume, \$1.00 for each cubic yard; for furnishing and placing granite stone riprap and granite chips in the jetty, \$2.83 for each ton.

This work was completed Sept. 20, 1935, at a contract cost of \$9,116.71. Toward this cost a contribution of \$5,000 was made by the town of Falmouth.

Amount expended during the year, \$10,508.89. Total expenditure to Dec. 1, 1935, \$10,508.89.

HARWICH SHORE PROTECTION

Hearing was held on Jan. 31, 1935, on petition of the Selectmen for the building of stone jetties at West Harwich Beach.

A contract with Frederick V. Lawrence was made on Aug. 12, 1935, to build two stone jetties at Harwichport and to rebuild and extend a stone jetty at South Harwich, at a contract price of \$2.68 for each ton of 2,000 pounds of granite stone riprap and chips furnished and placed in the jetties. This work was completed Nov. 23, 1935, at a contract cost of \$3,728.88. Toward this cost a contribution of \$1,000 was made by the town of Harwich and one of equal amount by the county of Barnstable.

Amount expended during the year, \$3,388.37. Total expenditure to Dec. 1, 1935, \$15,947.79.

HERRING RIVER, HARWICH

Hearing was held on Jan. 31, 1935, on the petition of the Selectmen of Harwich for dredging at the mouth of Herring River.

On June 18, 1935, a contract was made with Herbert T. Gerrish to include the dredging in the entrance to Herring River of a channel about 60 feet wide on the bottom and 6 feet deep at mean low water, at the following contract prices: for dredging and disposing of the dredged material on land, flats or at sea, 43 cents for each cubic yard measured in place; for removing and disposing of boulders \$20 for each cubic yard. Toward the cost of this dredging a contribution of \$1,000 has been made by the town of Harwich. No work has begun under this contract.

During the year a concrete wall 402 feet long was built upon the top of the stone work of the westerly jetty at the entrance to the river. The work was carried out on a basis of day labor at a cost of \$1,936.24.

Amount expended during the year \$1,936.24. Total expenditure to Dec. 1, 1935, \$136,669.22.

HYANNISPORT BREAKWATER, BARNSTABLE

Hearing was held on Jan. 24, 1935, on the petition of the Selectmen of Barnstable for the building of a stone breakwater to close the existing gap between the end of the breakwater built by the Federal Government and the end of the jetty built by the Commonwealth at Hyannisport.

On June 11, 1935, a contract was made with the Bay State Dredging and Contracting Company to close the gap between the two structures by extending the stone breakwater built by the Commonwealth to the breakwater built by the Federal Government. The contract price for this work was: for each ton of stone riprap furnished in place in the completed work \$2.94. This project was completed Sept. 6, 1935, at a contract cost of \$35,280. Toward this cost a contribution of \$14,400 was made by the town and one amounting to \$3,600 by individuals interested in the improvement.

Under a letter contract of Sept. 17, 1935, with the Bay State Dredging and Contracting Company, additional stone was placed in the old breakwater and in the extension at a contract cost of \$5,033.28.

Amount expended during the year, \$36,447.57. Total expenditure to Dec. 1, 1935, \$101,465.33.

MANCHESTER HARBOR, MANCHESTER

A contract was made on Oct. 4, 1935, with the Bay State Dredging and Contracting Company to dredge to a depth of 6 feet at mean low water, an anchorage basin in Manchester Harbor at the following contract prices: for dredging and disposing of the dredged material 49.8 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work, not yet completed, is to be paid for from funds available under the provisions of Chapter 464 of the Acts of 1935.

Amount expended during the year, \$17,742.87. Total expenditure to Dec. 1, 1935, \$207,581.75.

MANOMET POINT, PLYMOUTH

Work under contract of Aug. 21, 1934, with M. J. Crowley, for shore protection at Manomet was completed Mar. 9, 1935, at a contract cost of \$12,468.49. Toward this cost a contribution of \$5,500 was made by the town of Plymouth and one of \$1,750 by the County of Plymouth.

Amount expended during the year, \$7,277.74. Total expenditure to Dec. 1, 1935, \$13,920.20.

MENAMSHA CREEK, CHILMARK AND GAY HEAD

Hearing was held on Jan. 24, 1935, on the petition of the Selectmen of Chilmark and Gay Head for the deepening of Menamsha Creek from its entrance in Vineyard Sound to Menamsha Pond and for the placing of riprap.

On Oct. 4, 1935, a contract was made with the Bay State Dredging and Contracting Company to dredge to a depth of 6 feet at mean low water a channel about 5,200 feet long from Vineyard Sound to Menamsha Pond to a width of 60 feet on the bottom, at the following contract prices: for dredging and disposing of excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barriers, 54 cents per cubic yard measured in place; for removing and disposing of boulders \$20 per cubic yard. The cost of this work, now nearly completed, is to be paid from funds available under the provisions of Chapter 464 of the Acts of 1935.

Work under this contract has been extended to include the dredging of a channel from Menamsha Pond to Nashaquitsa Pond, to a depth of 6 feet at mean low water and a width on the bottom varying from 60 feet to 100 feet.

Amount expended during the year, \$23,751.28. Total expenditure to Dec. 1, 1935, \$153,994.71.

NEW BEDFORD STATE PIER

During the year a portion of this pier has been occupied by the Lamport Manufacturing Supply Company, Inc., under the terms of the lease of Apr. 27, 1933, expiring Mar. 31, 1936, at a rental of \$5,500 per year.

On Sept. 9, 1935, a letter contract was made with Thomas O'Connor and Company, Inc., for alterations and repairs to the present platforms and the construction of a wooden canopy. This work was completed Nov. 20, 1935, at a contract cost of \$9,414.08.

Under a letter contract of Nov. 6, 1935, with Frank C. Taylor, Inc., the work of furnishing and driving creosoted yellow pine piles and furnishing and placing creosoted yellow pine cap log and untreated oak facing at the pier, is now in progress.

Repairs to the foundations of the timber sheds on the pier, in accordance with letter contract of Nov. 26, 1935, with Thomas O'Connor and Company, Inc., were completed Nov. 29, 1935, at a contract cost of \$1,046.98.

Three steamship lines are now operating weekly sailings on regular schedules from this pier. The commodities chiefly handled are cotton, flour and rice from the Gulf ports.

The Southern Pacific Steamship Lines, the Morgan Line, the Pan-Atlantic Line and the Mooremack Gulf Lines, Inc., use the pier in regular service, while occasional shipments of lumber from the Pacific coast ports are brought in by other lines.

Amount expended for operation, maintenance and improvement during the year, \$13,370.01.

Income during the year, \$23,921.89.

Total expenditure for operation, maintenance and improvement, to Dec. 1, 1935, \$93,913.02.

NOBSCUSSET HARBOR, DENNIS

On Jan. 15, 1935, a contract was made with Thomas Whalen and Sons, Inc., for placing heavy stone riprap along the northeasterly side of the timber bulkhead at Nobscusset Harbor, at a contract price of \$2.23 for each ton of stone riprap in place in the completed work. The improvement was completed May 23, 1935, at a contract cost of \$4,171.89. Toward this cost a contribution of \$1,200 each was made by the town of Dennis and the County of Barnstable.

Amount expended during the year, \$4,785.50. Total expenditure to Dec. 1, 1935, \$48,564.29.

OLD SILVER BEACH, FALMOUTH

Hearing was held on Jan. 24, 1935, on the petition of the Park Commissioners of Falmouth for the building of a retaining wall at Old Silver Beach to keep Herring River from changing its course and to protect the beach where the town has built a bathing pavilion.

On May 21, 1935, a contract was made with Frederick V. Lawrence for the construction of a stone jetty about 350 feet long, a return wall about 90 feet long, for excavating a trench and riprapping the slope along the southerly side of the jetty about 350 feet in length, on the northerly side of the entrance to Herring River at Old Silver Beach. The contract price for the work was: for furnishing and placing stone riprap and granite chips in the jetty and return wall and excavating, including all incidental work, \$2.39 for each ton of 2,000 pounds. This project was completed July 23, 1935, at a contract cost of \$2,418.88. Toward the cost a contribution of \$1,000 each was made by the town of Falmouth and the county of Barnstable.

Amount expended during the year, \$3,069.30. Total expenditure to Dec. 1, 1935, \$3,069.30.

ONSET BAY, WAREHAM

Hearing was held on Jan. 24, 1935, on the petition of the Chairman of the Selectmen of Wareham for dredging a channel and basin in Onset Bay in extension of dredging to be carried out by the Federal Government.

A contract was made with Herbert T. Gerrish on Oct. 4, 1935, for dredging to a depth of 15 feet at mean low water a channel and basin in Onset Bay, the channel to a width of 100 feet on the bottom except at the turn where a width of 125 feet is to be provided, at the following contract prices: for removing and disposing of boulders \$20 per cubic yard; for dredging and disposing of the excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barrier, for each cubic yard measured in place, 51.5 cents. No work has yet begun under this contract. The cost of this dredging is to be paid from funds available under the provisions of Chapter 464 of the Acts of 1935.

Amount expended during the year, \$313.35. Total expenditure to Dec. 1, 1935, \$15,866.55.

COMMONWEALTH PROPERTY AT PLYMOUTH

An appropriation of \$3,000 was made this year by the Legislature for expenses of property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Department by vote of the Governor and Council on July 17, 1924. The usual care of the grounds and pier and necessary minor repairs have been carried on during the year.

The budget for 1935 provided also the sum of \$45,000 for the reconstruction of the State Pier.

On May 27, 1935, a letter contract was made with the Bay State Dredging and Contracting Company to dredge about 5,000 cubic yards of material from areas

near the pier, under the terms and conditions of its contract of Apr. 30, 1935, for dredging Duxbury Harbor. This work was completed June 4, 1935, at a contract cost of \$3,513.08.

A contract was made on July 16, 1935, with the Lee Construction Company, Inc., for removing the existing pile wharf at the State Pier, for constructing upon the site of new wharf and bulkhead of creosoted piles and timber, and for dredging an area adjacent to the bulkhead. The contract prices were: for dredging 60 cents per cubic yard, measured in place; for removal and disposal of boulders \$5.00 per cubic yard; for building wharf and bulkhead, unit prices for material furnished and placed. This work is now in progress.

Amount expended during the year, \$35,147.04. Total expenditure to Dec. 1, 1935, \$86,719.26.

PLYMOUTH HARBOR, PLYMOUTH

Hearing was held Jan. 24, 1935, on petition of Morton Collingwood, and others, for enlarging and deepening the present anchorage basin in Plymouth Harbor.

On Oct. 4, 1935, a contract was made with the Bay State Dredging and Contracting Company for dredging two areas in the basin near the Plymouth Yacht Club, one to a depth of 8 feet and the other to a depth of 6 feet at mean low water, at the following contract prices: for dredging and disposing of the dredged material 54.5 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work, now nearly completed, is to be paid for from funds available under the provisions of Chapter 464 of the Acts of 1935.

Amount expended during the year, \$28,195.72. Total expenditure to Dec. 1, 1935, \$352,760.74.

PROVINCETOWN TERCENTENARY COMMISSION

During the year the land at Provincetown acquired by the Provincetown Tercentenary Commission and placed under the control of the Department June 23, 1926, has been cared for from funds appropriated for this area and the Province Lands. An employee has been kept at work during the summer to maintain the park in proper condition.

ROCK HARBOR, ORLEANS

Hearing was held Jan. 31, 1935, on petition of the Selectmen of Orleans, and others, for dredging the channel to facilitate access to the platform built by the Department in 1934 in Rock Harbor Creek.

On May 21, 1935, a contract was made with Herbert T. Gerrish for dredging by the hydraulic process about 17,000 cubic yards of material in the channel and basin in Rock Harbor, the channel to a width of 40 feet on the bottom and the basin to width of 90 feet on the bottom, to a depth of 2 feet below mean low water. The contract prices for this work were: for dredging channel and basin and disposing of excavated material on marsh or flats adjacent to the work, including the construction of necessary dikes, sluices or other barriers, 46 cents for each cubic yard measured in place; for removing and disposing of boulders \$10 per cubic yard. This work was completed Sept. 28, 1935, at a contract cost of \$7,360. Toward this cost a contribution of \$4,000 was made by the town of Orleans.

Amount expended during the year, \$8,962.53. Total expenditure to Dec. 1, 1935, \$37,753.77.

SALISBURY DIKE

By Chapter 399 of the Acts of 1935, the Department of Public Works is authorized and directed to construct a dike and incidental structures in tide water within the territory of the Salisbury Reclamation District, in connection with the control works in process of construction by the District. For building the dike and incidental structures an expenditure of not more than \$13,000 is authorized, but no work is to be begun until the District has acquired the land upon which the structures are to be built, has provided near the site of the work materials to be used as fill and marsh sod to be used as surface protection for the dike and structures, and has assumed liability for all damages. The act is to take effect

upon its acceptance, before Sept. 1, 1935, by the proprietors of the Salisbury Reclamation District.

On Aug. 31, 1935, said District voted to accept the provisions of the Act and executed a contract of indemnity, assuming the liability required by the statute.

As the necessary taking of land has not been made by the District, no work has yet been done.

SCITUATE HARBOR

On Oct. 4, 1935, a contract was made with the Bay State Dredging and Contracting Company to dredge an area in Scituate Harbor to a depth of 6 feet at mean low water, at the following contract prices: for dredging and disposing of the dredged material 56.3 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work, now nearing completion, is to be paid for from funds available under the provisions of Chapter 464 of the Acts of 1935.

Amount expended during the year, \$11,491.67. Total expenditure to Dec. 1, 1935, \$217,503.61.

SCITUATE SEA WALLS

Shore Acres

The work under letter contract of May 8, 1934, with Thomas H. Hannaford for building the additional section of sea wall to complete the structure in front of Oceanside Drive from a point northerly of Fourth Avenue to Eleventh Avenue, was completed Aug. 3, 1935, at a contract cost of \$3,000. Toward the cost of the extension a contribution of \$1,500 was made by the town of Scituate.

SENKEKONTACKET POND, OAK BLUFFS

A letter contract with S. M. Fisher was made on Nov. 27, 1934, to remove 48 piles obstructing navigation in the entrance channel. The work was completed Jan. 12, 1935, at a contract cost of \$225.

SINGING BEACH, MANCHESTER

The work of grading about 4,000 square yards of the slope at Singing Beach, and of placing coarse gravel or crushed stone and stone riprap paving, under contract of Aug. 28, 1934, with Thomas A. Mackey, was completed Mar. 23, 1935, at a contract cost of \$7,392.68. Toward this cost a contribution of \$7,562.50 was made by the town of Manchester.

The unexpectedly low prices at which the contract for this work was made resulted in an unexpended balance from the sum allotted for the purpose. The town of Manchester asked that this balance be spent for extending the work at Singing Beach.

On Feb. 5, 1935, a contract was made with Thomas Whalen and Sons, Inc., for paving with stone riprap about 400 feet of bank at this beach, involving the grading of about 900 square yards of bank, the furnishing and placing of 150 cubic yards of screened gravel or crushed stone, and the furnishing and placing of about 770 tons of stone riprap. The contract prices for this work were: for each ton of riprap furnished and placed in the completed work \$2.50; for each cubic yard of screened gravel or crushed stone furnished and placed in the completed work \$1.65; for each square yard of bank graded, including the furnishing of material and all incidental work, 20 cents. This work was completed June 7, 1935, at a contract cost of \$2,938.32.

Amount expended during the year, \$8,714.32. Total expenditure to Dec. 1, 1935, \$12,732.92.

SMITH'S COVE, GLOUCESTER

Hearing was held Jan. 31, 1935, on the petition of Harold B. Webber for dredging in Smith's Cove.

On Oct. 4, 1935, a contract was made with the J. S. Packard Dredging Company for dredging to a depth of 14 feet at mean low water an area in Smith's Cove, at the following contract prices: for dredging and disposing of the dredged material 54 cents per cubic yard, scow measurement; for removing and disposing of

boulders \$25 per cubic yard. The cost of the work, now nearing completion, is to be paid from funds provided under Chapter 464 of the Acts of 1935.

Amount expended during the year, \$16,318.15. Total expenditure to Dec. 1, 1935, \$29,784.31.

WAQUOIT BAY, FALMOUTH AND MASHPEE

On Aug. 14, 1935, a contract was made with William R. Farrell and Son, Inc., to include repairs to the stone jetty at Waquoit Bay at the following contract prices; for each ton of heavy stone riprap furnished in place in the completed work \$3.37; for each ton of stone chips furnished in place in the completed work \$3.57. These repairs were completed Oct. 22, 1935, at a contract cost of \$6,238.28.

Amount expended during the year, \$9,288.68. Total expenditure to Dec. 1, 1935, \$107,727.59.

WEST CHOP, TISBURY

Work under contract of Aug. 28, 1934, with Merritt-Chapman and Scott Corporation for repairing five stone jetties, extending two stone jetties and building a riprap apron in front of the concrete wall at West Chop, was completed Jan. 12, 1935, at a contract cost of \$7,559.49. Last year a contribution of \$2,500 was made by the town toward the cost of this work and one of \$1,500 by property owners.

Amount expended during the year, \$7,929.46. Total expenditure to Dec. 1, 1935, \$13,045.53.

WEST FALMOUTH HARBOR, FALMOUTH

Hearing was held Jan. 24, 1935, on petition of the Harbor Master of Falmouth, and others, for dredging the entrance channel and increasing the anchorage basin in West Falmouth Harbor.

On May 21, 1935, a contract with Herbert T. Gerrish was made to include the dredging of about 30,000 cubic yards of material from a channel of varying width to a depth of 6 feet at mean low water in West Falmouth Harbor at the following contract prices: for dredging and disposing of the excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barriers, 56 cents for each cubic yard measured in place; for removing and disposing of boulders, \$20 for each cubic yard. Work under this contract was begun in October.

Under a letter contract with John A. Davis the work of removing floating timber from this harbor was completed June 19, 1935, at a contract cost of \$75.

Amount expended during the year, \$5,586.10. Total expenditure to Dec. 1, 1935, \$69,107.05.

WINTHROP SHORE PROTECTION

Work under contract of Aug. 1, 1934, with William R. Farrell for an extension to the breakwater off Winthrop Shore Drive was completed Jan. 6, 1935, at a contract cost of \$67,258.43.

This extension was authorized by Chapter 286 of the Acts of 1934 which allowed the expenditure by the Commonwealth of a sum not exceeding \$80,000 to be used with a contribution of \$16,000 to be made by the town. The favorable contract price at which this work was carried out left an unexpended balance for further extension.

On July 9, 1935, a contract was made with William R. Farrell, to build an extension to the northerly end of the existing stone breakwater in Broad Sound off Winthrop Shore Drive, at a contract price of \$2.17 for each ton of stone riprap furnished and placed in the completed work. This project was completed Sept. 3, 1935, at a contract cost of \$23,961.14.

Amount expended during the year, \$43,854.04. Total expenditure to Dec. 1, 1935, \$341,698.89.

YARMOUTH SHORE PROTECTION

Hearing was held Jan. 24, 1935, upon petitions of the Selectmen for the building of stone jetties to protect the Yarmouth Shore.

On Sept. 3, 1935, a contract was made with Frederick V. Lawrence for building

eight stone jetties, each about 150 feet long, at South Yarmouth Beach, at a contract price of \$2.73 for each ton of 2,000 pounds of granite stone riprap and chips furnished and placed in the jetties. This work was completed Nov. 30, 1935, at a contract cost of \$9,977.48. Toward this cost a contribution of \$2,500 each was made by the town of Yarmouth and the county of Barnstable.

Amount expended during the year, \$8,480.86. Total expenditure to Dec. 1, 1935, \$8,480.86.

Miscellaneous

GREAT PONDS

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by Chapter 318 of the Acts of 1888. This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was later given by Chapter 379, Acts of 1904, now section 2, Chapter 91, General Laws.

During the year the Department has considered matters relating to: Alum Pond, Sturbridge; Asneconick or Comet Pond, Hubbardston; Bartlett Pond, Plymouth; Blackmore's Pond, Wareham; Cedar Dell Pond, South Dartmouth; Clear Lake, Barnstable; Great Pond, Falmouth; Great Pond, Otis; Horn Pond, Woburn; Lake Tashmoo, Tisbury; Lake Winthrop, Holliston; Lead Mine Pond, Sturbridge; Manchaug Lake, Douglas; North Pond, Worcester; Shivericks Pond, Falmouth; Snipatuit Pond, Rochester.

Surveys were made this year of the following great ponds:

Abners Pond, Plymouth

Area at time of survey	10.259 Acres
Area of natural pond	10.259 Acres
Maximum depth	27.6 feet

Stevens Pond, Boxford

Area at time of survey	12.61 Acres
Area of natural pond	12.61 Acres
Maximum depth	15 feet

Pleasant Pond or Idlewild Lake, Hamilton and Wenham

Area at time of survey	30.38 Acres
Natural pond area not determined as no soundings were taken.	
Maximum depth not determined.	

Pond area divided between towns as follows:

1.53 Acres in Hamilton
28.85 Acres in Wenham

ACCESS TO GREAT PONDS

On Dec. 12, 1934, hearing was held by the Joint Board established by Chapter 453 of the Acts of 1923, upon a petition of ten citizens of the Commonwealth asking for the establishment of a right of way for public access to Asneconick or Comet Pond in Hubbardston. As evidence was presented that the pond is a tributary of Ware River, made by the provisions of Chapter 375 of the Acts of 1926 a part of the water supply of the Metropolitan District, and that the Metropolitan District Water Supply Commission is already acquiring land upon the shore of the pond, the petition was dismissed for lack of jurisdiction.

PROVINCE LANDS

The territory belonging to the Commonwealth, known as the Province Lands at Provincetown, comprising about 3,810 acres lying northerly and westerly of a line described in Chapter 470 of the Acts of 1893, was placed by the terms of the statute under the general care and supervision of the Board of Harbor and Land Commissioners. The work of reclamation has been carried on within this area

since 1894 by direction of the Harbor and Land Commissioners and its successors in authority.

Under present conditions the most effective method of checking the movement of the sand appears to be the preliminary covering of the dunes with brush to afford protection for the natural reseeding of beach grass, and the following of this work later by the transplanting of shrubs and trees.

During the year brush and trees have been cleared from an area of about 16 acres previously swept by fire. The brush has been used for covering about 20,000 square feet of sand dunes.

About 600 bayberry shrubs have been transplanted as protection for marginal planting and wind break, and 88,000 small seedling pitch pine trees have been transferred from forest areas to sand dunes.

The work of destroying gypsy moths and brown tail moths has been continued during the year, a new nursery and propagating bed has been established and about two miles of combination fire stops and truck trails provided to ponds and water holes, with sand piles along the way, for use in cases of brush fires.

The reclamation and general care of these lands is carried on under the direction of a superintendent.

The sum of \$201.25 has been paid into the State Treasury during the year from licenses issued for cultivating and picking cranberries on the bogs and for mowing meadows and from permits for occupying areas upon these lands.

Amount expended during the year, \$4,988.63. Total expenditure to Dec. 1, 1935, \$176,276.81.

STATE BOUNDARY LINES

Section 4 of Chapter 1 of the General Laws provides:

"The Department of Public Works, in this chapter called the Department, shall in the year nineteen hundred and thirty-five and in every fifth year thereafter inspect all monuments or other marks defining the location of the boundary lines of the Commonwealth, and if any of them have been injured, displaced, removed or lost the department shall, in co-operation with persons duly authorized by the adjoining State, restore them or replace them with suitable stone monuments, and in the same manner set suitable stone monuments at points not properly marked where the State boundary is intersected by the boundary of any counties, cities or towns in the Commonwealth or by a highway or railroad. If officers of adjoining States are required to make such inspection at other times, the department may co-operate with them."

The perambulation of the boundary line between the Commonwealth of Massachusetts and the State of New York was made by representatives of the Department, beginning July 8 and ending Sept. 7, 1935, as the officials of New York explained that no funds were available for co-operative examination during the year. All bounds were visited and found, with one exception, in good condition. Repairs were made to the bound in question and brush was cut from a considerable section of the boundary line. Additional cutting will be carried out during the coming year.

The perambulation of the boundary line between the Commonwealth of Massachusetts and the State of New Hampshire was made conjointly with W. S. Morrill, representing the State of New Hampshire. This work was done in July, 1935, and all bounds found in good condition and properly set.

The perambulation of the boundary line between the Commonwealth of Massachusetts and the State of Vermont was made conjointly with Lee Bates, representing the State of Vermont. The work was begun Aug. 27, 1935, and completed Aug. 31, 1935. All bounds were visited and found in good condition with two exceptions. Repairs have been made to these two bounds.

The perambulation of the boundary line between the Commonwealth of Massachusetts and the State of Rhode Island and Providence Plantations was made conjointly with members of the Rhode Island Boundary Line Commission appointed by Governor Green on Oct. 28, 1935, as follows: Edward H. Rathburn, Chairman; C. Robert Lynch, and John W. Heuberger. On a portion of the

boundary line the State of Rhode Island was represented by Willis Tobie, designated by the Rhode Island Boundary Line Commission to represent the State of Rhode Island. The work was begun Nov. 4, 1935, and completed Nov. 27, 1935. All bounds were visited and found, with a few exceptions, in good condition. The damaged bounds have been properly reset.

The perambulation of the boundary line between the Commonwealth of Massachusetts and the State of Connecticut was made conjointly with T. F. Newhaus, representing the State of Connecticut. The work was begun Sept. 23, 1935, and completed Oct. 8, 1935. All bounds were visited and found in good condition and properly set.

In these perambulations the Department was represented by the following engineers: William C. Hawley, Charley J. O'Donnell and Francis P. Mahaney.

TOWN BOUNDARY LINES

During the year the Department set certain witness monuments and marked the boundary line between the town of Oak Bluffs and Tisbury, as required by the provisions of Chapter 145 of the Acts of 1935. Other work performed this year comprised the resetting of bound stones which had been damaged or lost.

CONSERVING AND EQUALIZING THE FLOW OF WATER IN RIVERS AND STREAMS

By Chapter 359, Acts of 1909, Chapter 564, Acts of 1912, and Chapter 84, Resolves of 1917, co-operation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, so that results of work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by said survey have been obtained for use by the Department and are available for other Departments of the Commonwealth. Toward the cost of this work the Department has paid during the year, \$5,000.

RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS

By section 33, Chapter 91, General Laws, the Department is authorized to make such surveys and to do such other work as may be required by any order of the Land Court, to re-establish and permanently mark certain triangulation points and stations previously established in connection with the topographical survey of the Commonwealth, and the town boundary survey, which have been lost or destroyed and to obtain the geographical position of such new points and stations as may be required from time to time by the Court.

All funds provided for this purpose during the year were expended in maintaining a survey party on Nantucket Island to check triangulation work and to run base lines.

LICENSES AND PERMITS

During the year 97 licenses were granted for work to be done in tide waters, great ponds, Connecticut River and Merrimack River, and 112 permits for miscellaneous purposes. The Department also approved 96 permits granted by cities and towns for the construction and maintenance of fish weirs in tide water.

EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR
1859-1935, INCLUSIVE

<i>Payments</i>	<i>To Nov. 30, 1934</i>	<i>1935</i>	<i>Total</i>
Boston Harbor:	\$1,762,443 60 ¹	—	
Maintenance of Property		—	
Dredging and Filling		—	
Special Appropriations		\$12,999 86	\$1,775,443 46
Commonwealth Flats:			
East Boston	3,093,326 83 ²	—	3,093,326 83
South Boston	4,892,123 69	—	4,892,123 69
Castle Island:	745,264 94		
Dredging and Filling		4,469 80	749,734 74
Commonwealth Pier No. 5: South Boston:			
Construction	4,014,790 45	—	4,014,790 45
Maintenance	781,951 70	102,014 68	883,966 38
Dredging	61,323 75	—	61,323 75
Operation and Supervision	1,836,848 98	106,000 03	1,942,849 01
Commonwealth Pier No. 1: East Boston:			
Construction	1,199,703 23	—	1,199,703 23
Operation and Supervision	127,987 12	—	127,987 12
Maintenance	27,368 09	9,669 27	37,037 36
Commonwealth Pier No. 6, South Boston:			
Construction	1,092,149 06	—	1,092,149 06
Maintenance	51,937 90	—	51,937 90
Dry Dock	3,169,651 15 ³	—	3,169,651 15
Hayward Creek	385,979 61 ⁴	—	385,979 61
Mystic River	467,425 93 ⁵	46,600 82	514,026 75 ⁷
Malden River	33,002 84 ⁶	—	33,002 84
Chelsea Creek	61,094 35	—	61,094 35
Commercial Point, Dorchester Bay	53,213 10	—	53,213 10
Maintenance of Property (in addition to maintenance items listed above)	395,452 92	57,636 08	453,089 00
	\$24,253,039 24	\$339,390 54	\$24,592,429 78

¹ Expenditure includes contribution by Quincy Market Cold Storage and Warehouse Corporation in 1921 \$ 4,000 00
Bethlehem Shipbuilding Corporation in 1930 10,000 00

² Expenditure includes contribution by the City of Boston in 1926, authorized by Chapter 385, Acts of 1926 10,000 00

³ Additional amount paid by the State Treasurer from Development of the Port of Boston Loan Sinking Fund in settlement of claims 17,877 73

⁴ Expenditure includes contributions by Massachusetts Oil Refining Company and Bethlehem Shipbuilding Corporation 38,600 00

Additional amount paid by State Treasurer for land taking 3,725 27

⁵ Expenditure includes contribution by Merrimac Chemical Company in 1920 15,000 00

Contribution by Beacon Oil Company in 1920 4,182 50

⁶ Commonwealth's funds expended by United States Government 31,000 00

Contribution by Standard Oil Company of New York in 1922, expended by the Commonwealth 600 00

⁷ Expenditure includes transfer from Small Harbors and Channels Table 5,927 70

EXPENDITURES AND CONTRIBUTIONS FOR IMPROVEMENT OF SMALL HARBORS AND CHANNELS WITHIN BOSTON HARBOR, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS, FROM 1893 TO 1935, INCLUSIVE

<i>Locality and Character of Work</i>	Contributions		Total Expenditures	
	1935	Contributions	1935	Expenditures
Cottage Park Channel, Winthrop—Dredging . . .	—	\$6,250 00	—	\$37,967 29
Dorchester, Easterly Shore, Dredging and Survey . . .	—	1,000 00	—	210,767 61
Harbor View—Dredging . . .	—	—	—	146 00
Hingham Harbor—Dredging . . .	—	6,500 00	—	41,595 12
Houghs Neck, Quincy—Dredging, Survey and Seawall . . .	—	7,500 00	\$8,480 54	55,165 69
Island End River, Everett—Survey . . .	—	—	—	264 10
Jeffries Point Channel—Dredging . . .	—	—	—	4,563 93
Mystic River (near Lawrence and Wiggin Wharf) Dredging ¹ . . .	—	—	—	—
Neponset River—Dredging . . .	—	10,000 00	—	109,401 63
Old Harbor Cove—Dredging . . .	—	—	—	10,520 48
Orient Heights Channel—Dredging . . .	—	—	—	45,412 38
Pemberton Point, Hull—Breakwater . . .	—	60,000 00	—	91,195 01
Pleasant Park Yacht Club Channel—Dredging . . .	—	3,000 00	18,421 53	48,735 39
Point Allerton, Hull—Seawall . . .	—	50,000 00	—	75,127 05
Point Shirley, Winthrop . . .	—	—	—	3,713 37
Quincy Bay—Dredging . . .	—	10,150 00	—	84,162 47
Shirley Gut, Boston and Winthrop—Dredging . . .	—	—	—	2,432 34
South Boston, Southerly Shore—Dredging . . .	—	—	—	129,542 08
Stony Beach, Hull—Seawall and riprap . . .	—	8,000 00	—	28,658 05
Town River, Quincy—Survey and Dredging . . .	—	16,050 00	50,615 44	108,278 69
Weir River, Hull—Dredging . . .	—	45,000 00	—	205,336 48
Wessagussett Channel—Dredging . . .	—	—	—	815 20
Weymouth Fore River—Dredging . . .	—	8,250 00	21 93	70,106 62
Winthrop Harbor Channels—Dredging . . .	—	20,567 00	2,132 90	91,169 11
	—	\$252,267 00	\$79,672 34	\$1,455,076 09

EXPENDITURES AND CONTRIBUTIONS FOR RIVER AND HARBOR WORK
FROM DECEMBER 1, 1934, TO NOVEMBER 30, 1935

<i>Location and Character of Work</i>	Contributions	Expenditures
Allen's Harbor, Harwich, survey . . .	\$2,000 00	\$15 75
Barlow's River, Pocasset Harbor, Bourne, survey . . .	—	207 79
Bass River, Beverly, dredging . . .	2,000 00	3,850 75
Bass River, Dennis and Yarmouth, jetty repairs . . .	—	3,798 89

¹ See Mystic River under Boston Harbor table.

<i>Location and Character of Work</i>	Contributions	Expenditures
Brant Rock, Marshfield, seawalls and riprap . . .	—	78 75
Cape Cod Canal Pier, Bourne, construction . . .	—	1,842 50
Cape Cod Canal Pier, Bourne, operation and maintenance . . .	—	4,343 90
Cape Poge, Edgartown, dredging . . .	—	4,817 70
Chatham, East of Chatham Light, survey . . .	—	40 00
Connecticut River, Hadley, survey . . .	—	41 59
Connecticut River, Northfield, survey . . .	—	45 15
Dennis:		
Nobscusset Harbor, stone riprap . . .	2,400 00	4,785 50
West Dennis, survey . . .	—	84 30
Duxbury Harbor, Duxbury, dredging . . .	8,000 00	16,255 30
Ellisville Harbor, Plymouth, dredging . . .	—	435 06
Falmouth Heights, Falmouth, seawall repairs, riprap and survey . . .	—	448 17
Falmouth, Great Pond, channel excavation, jetty . . .	5,000 00	10,508 89
Falmouth, Old Silver Beach (Herring River), stone jetty . . .	2,000 00	3,069 30
Falmouth, West Falmouth Harbor, dredging . . .	12,500 00	5,586 10
Great Ponds, survey . . .	—	863 21
Herring River, Harwich, jetty repairs . . .	1,000 00	1,936 24
Hyannis Harbor, Barnstable, riprap . . .	—	5,033 28
Hyannisport, Barnstable, breakwater . . .	18,000 00	36,447 57
Hyannisport, Hall Creek, Barnstable, survey . . .	—	112 10
Hyannisport, Squaw Island Road, Barnstable, survey . . .	2,700 00	72 12
Harwich Shore, Chatham Line to Dennis, survey . . .	—	2,040 01
Harwichport Beach, shore protection . . .	2,000 00	2,487 89
Lagoon Pond, Tisbury, and Oak Bluffs, survey . . .	—	220 09
Lake Anthony, Oak Bluffs, survey . . .	—	172 87
Lynn Harbor—Saugus River, Lynn and Saugus, survey . . .	—	54 75
Manchester Harbor, Manchester, dredging . . .	—	17,742 87
Manomet Point, Plymouth, stone riprap and fill . . .	—	7,277 74
Marine Borer Investigations . . .	—	755 43
Menamsha Inlet, Chilmark and Gay Head, dredging . . .	—	23,751 28
Nantucket Hither Creek, survey . . .	—	220 45
New Bedford State Pier, operation and maintenance . . .	—	9,028 98
New Bedford State Pier, alterations and repairs . . .	—	4,341 03
Nobscusset Harbor—see Dennis		
North Dennis—see Dennis		
Oak Bluffs, riprap . . .	—	78 00
Onset Bay, Wareham, dredging . . .	—	313 55
Pamet River, Truro, survey . . .	—	418 89
Plymouth Harbor, dredging . . .	—	28,195 72
Plymouth—see Manomet Point, Plymouth		
Plymouth Property, dredging and maintenance of . . .	—	35,147 04
Province Lands, Provincetown, reclamation . . .	—	4,988 63
Rock Harbor, Orleans, timber bulkhead, platform and dredging . . .	4,000 00	8,962 53
Rockport Harbor, Rockport, survey . . .	—	5 96
Salisbury Beach, survey . . .	—	297 25
Saugus River, Lynn and Saugus, survey . . .	—	10 44
Scituate Shore Protection:		
Sand Hills to Shore Acres, shore protection . . .	—	50 00
Sand Hills to Scituate, seawall, jetties and survey . . .	—	467 48
North Scituate, Surfside, seawall repairs . . .	—	1,267 36
Scituate Harbor, dredging . . .	—	11,491 67

<i>Location and Character of Work</i>	Contributions	Expenditures
Sengekontacket Pond, Oak Bluffs, survey	—	225 00
Singing Beach, Manchester, stone riprap	—	8,714 22
Smith's Cove, Gloucester, survey and dredging	—	16,318 15
South Harwich, jetties	—	900 48
South Hyannis, Barnstable, survey	7,987 34	41 15
South Yarmouth Beach, Yarmouth, jetties	5,000 00	8,480 86
Waquoit Bay, Falmouth, jetty repairs	—	9,288 68
Water Conservation	—	5,000 00
West Chop, Tisbury, riprap	—	7,929 46
West Dennis—see Dennis		
Westport River, Westport, survey	—	476 70
Winthrop Shore, Winthrop, breakwater	—	43,854 04
Wrecks, removal from tidewater	—	95 73
Improvement of Rivers and Harbors, general ex- penses	—	11,529 65
	<hr/> \$74,587 34	<hr/> \$377,331 94

EXPENDITURES AND CONTRIBUTIONS FROM 1893 TO 1935, INCLUSIVE, FOR RIVER AND HARBOR WORK, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS (EXCEPTING BOSTON HARBOR)

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Acushnet River, inspection and dredging	—	\$119,810 10
Allens Harbor, Harwich, shore protection, dredg- ing, riprap and jetties	\$20,927 50	51,378 37
Allens Pond, Dartmouth, survey	—	195 95
Angle Tree Monument—Reservation	—	1,306 22
Annisquam River, Gloucester, dredging, removing ledges and riprap	13,250 00	171,498 69
Apponagansett Harbor and River, Dartmouth, sur- vey, dredging and stone breakwater	—	55,786 05
Barlow's River, Pocasset Harbor, Bourne	—	207 79
Barnstable Harbor, Barnstable, dredging	7,500 00	30,693 16
Bass River, Beverly, dredging	57,535 75	84,953 51
Bass River, Dennis and Yarmouth, jetties, dredging and survey	25,095 00	192,092 22
Beach Street, Scituate—see Scituate		
Beverly Harbor, Beverly, dredging	—	50,000 00 ¹
Brant Rock, Marshfield, shore protection	111,503 66	231,026 89
Brewster, Skaket Inlet, survey	—	617 19
Bucks Creek, Chatham, jetties, survey and dredg- ing	2,500 00	39,719 69
Buzzards Bay, Falmouth, survey	—	166 11
Cape Cod Canal Pier, Bourne, construction	—	264,267 22
Cape Cod Canal Pier, Bourne, operation and maintenance	—	11,025 18
Cape Poge, Edgartown, cut through beach, dredg- ing, jetties and riprap	16,500 00	60,636 03 ²
Cataumet Harbor—see Megansett Harbor		
Cedar Point, Scituate—see Scituate		
Centerville River, Barnstable, dredging	19,711 50	44,329 77
Chatham, riprap and surveys	10,500 00	19,853 19
Cohasset Harbor, Cohasset, breakwater and dredg- ing	42,691 88	116,191 93

¹ State funds expended under direction of U. S. Government.

² \$17,543.96 expended from U. S. Government funds (Emergency Public Works Administration).

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Concord River, Billerica, removing boulders . . .	150 00	1,664 59
Connecticut River, Agawam, protective work . . .	—	18,814 42
Connecticut River, Chicopee, survey wall and riprap . . .	640 00	25,789 02
Connecticut River, Deerfield, survey and riprap . . .	—	1,227 31
Connecticut River, investigation of navigation and surveys . . .	—	8,878 96
Connecticut River, Greenfield, survey and riprap . . .	—	1,607 76
Connecticut River, Hadley, survey, diversion wall and riprap . . .	7,000 00	124,596 54 ³
Connecticut River, Hatfield, dikes and riprap . . .	1,000 00	51,568 48
Connecticut River, Holyoke, dredging and protec- tive work . . .	1,991 29	9,253 27
Connecticut River, Holyoke, marking and lighting old piers . . .	—	1,195 32
Connecticut River, Northampton, riprap . . .	—	1,524 20 ⁴
Connecticut River, Northampton, riprap . . .	—	617 37
Connecticut River, Northfield, survey and riprap . . .	—	14,268 66
Connecticut River, South Hadley, wall . . .	1,000 00	7,379 58
Connecticut River, Springfield and West Spring- field, protective work . . .	—	15,017 85 ⁵
Conservation of Waters, investigation . . .	—	93,764 54
Cotuit Harbor, Barnstable, dredging, survey and bulkhead repairs . . .	17,845 10	92,828 26
Cuttyhunk Harbor, Gosnold, jetties and dredging . .	10,000 00	83,935 78
Deacon Pond Harbor—see Falmouth Inner Harbor		
Dennis:		
Dennisport, stone jetty . . .	1,200 00	2,315 47
Nobscusset Harbor, breakwater and riprap . . .	6,710 00	48,564 29
North Dennis, stone jetty . . .	1,200 00	4,819 70 ⁷
Swan Pond River, stone jetties . . .	1,750 00	3,906 74
West Dennis, stone jetty and survey . . .	750 00	1,709 03
Duxbury Bay and Harbor, dredging and survey . .	35,000 00	109,104 31
East Bay, Osterville, jetties, dredging and removing scows . . .	10,000 00	70,969 75
Edgartown Harbor, Edgartown, survey and cut in beach . . .	300 00	3,496 64
Ellisville Harbor, Plymouth, dredging and jetty repairs . . .	—	21,108 64
Essex County Beaches, survey . . .	—	1,000 00
Essex River, Essex, dredging . . .	—	76,304 33 ⁶
Fall River Harbor, improvement . . .	—	1,130 18
Falmouth, Great Pond, channel excavation and jetty . . .	5,000 00	10,508 89
Falmouth Heights, Falmouth, survey, seawall and riprap . . .	23,460 04	73,351 19
Falmouth Inner Harbor, dredging, jetties, wall and riprap . . .	33,500 00	154,279 63
Falmouth, Menauhant Shore, bulkheads, jetties and riprap . . .	3,100 00	6,075 33
Falmouth, Old Silver Beach (Herring River), stone jetty . . .	2,000 00	3,069 30

³ From 1888, inclusive.⁴ This location is now part of Holyoke.⁵ From 1891, inclusive.⁶ Includes \$5,000 expended by U. S. Government.⁷ Transferred \$2,603.37 from Nobscusset Harbor, Dennis.

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
First and Second Cliffs, Scituate—see Scituate		
Fresh Water Cove, Gloucester, dredging	3,300 00	17,477 53
Gay Head, survey	—	555 42
Geological Survey Trust Fund	3,000 00	3,000 00
Glades, North Scituate—see Scituate		
Gloucester Fish Pier	—	396 91
Gloucester, Western Avenue, sea wall	35,000 00	60,000 00
Gloucester Harbor, Gloucester, dredging and re- moving ledges	15,000 00	148,802 79
Great Head, Winthrop—see Winthrop Shore		
Great Ponds, survey	—	30,534 31
Green Harbor, Marshfield, jetties, dredging and survey	42,500 00	167,361 13
Gun Rock Point, Hull, breakwater and seawall repairs	16,135 41	77,939 33
Harbor Cove, Gloucester, survey and dredging	3,866 00	25,155 04
Harwichport Beach, Harwich, shore protection	6,000 00	9,389 07
Harwich Shore, near Chatham Line, stone jetty	350 00	1,206 75
Harwich Shore, Chatham to Dennis, survey	—	2,040 01
Herring Creek, Scituate, survey	—	253 76
Herring River, Harwich, jetties, dredging and riprap	38,300 00	136,669 22
Herring River, Wellfleet, dikes and ditches	10,000 00	44,714 55
Hoosac River, North Adams, excavation and survey	—	21,271 67
Housatonic River, Sheffield, survey	—	2,011 29
Hull, seawall and jetties	8,882 06	42,093 96
Humarock Beach, Scituate—see Scituate		
Hyannis Harbor, Barnstable, bulkhead, dredging and riprap	21,750 00	45,582 46
Hyannisport, Squaw Island Road, Barnstable	2,700 00	72 12
Hyannisport, Barnstable, survey and breakwater	20,500 00	101,465 33
Hyannisport, Halls Creek, Barnstable, survey	—	112 10
Improvement of Rivers and Harbors, general ex- penses	—	73,896 24
Ipswich River, Ipswich, jetty wall, riprap and dredging	3,800 00	60,087 07
Kings Beach, Swampscott, removal of obstruction	—	166 41
Lagoon Pond, Tisbury and Oak Bluffs, survey, dredging and jetty	13,500 00	26,075 99
Lake Anthony, Oak Bluffs, survey, jetties and dredging	16,000 00	98,571 08
Lake Quannapowitt, Wakefield, investigation	—	345 32
Lake Quinisigamond, Worcester, investigation	—	1,760 56
Lake Tashmoo, Tisbury, survey	—	432 88
Lewis Bay, Barnstable, survey and dredging	18,809 29	66,874 33
Little Harbor, Cohasset, survey	500 00	1,476 77
Little Harbor, Marblehead, dredging	2,500 00	11,166 16
Little River, Gloucester, survey	—	862 93
Lobster Cove, Gloucester, dredging	4,500 00	61,603 36
Long Beach, Rockport, seawall	27,700 00	57,306 56
Lynn Harbor, Lynn, anchorage basin, survey and dredging	5,200 00	121,609 22
Lynn Harbor and Saugus River, dredging and filling	37,500 00	165,932 29
Manchester Harbor, Manchester, survey, jetties and dredging	83,000 00	207,581 75

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Manomet Point, Plymouth, stone riprap and fill	7,250 00	13,920 20
Marine Borer Investigations	—	755 43
Marshfield-Duxbury, survey	—	358 61
Mattapoissett Harbor, survey	—	255 48
Megansett Harbor, Bourne and Falmouth, dredg- ing	13,330 00	53,459 84
Menamsha Inlet, Chilmark and Gay Head, jetties, dredging, seawall and riprap	2,700 00	153,994 71
Merrimack River, investigation	—	1,208 50
Merrimack River Mouth, Newburyport, survey	—	111 87
Mill River, Gloucester, survey and dredging	300 00	24,899 59
Mitchells River, Chatham, survey and dredging	6,000 00	23,113 92
Monument Beach, Bourne, survey	—	326 40
Nahant, survey and riprap	15,000 00	30,177 19
Namequoit River and Pleasant Bay, Chatham, dredging	6,250 00	31,943 68
Nantucket Harbor, dredging	5,000 00	58,982 52
Nantucket, Hither Creek, survey	—	220 45
Nantucket, survey of Sesachacha Pond	—	110 66
Nauset Harbor and Town Cove, Orleans, dredging	2,000 00	10,671 24
New Bedford Harbor, dredging	—	18,856 57
New Bedford State Pier, shed, dredging, repairs and alterations	13,446 74 ⁸	562,934 19
New Bedford State Pier, operation and maintenance	—	89,571 99
Newburyport Harbor, survey	—	115 97
Nobscusset Harbor, Dennis—see Dennis		
North Dennis—see Dennis		
North River, Marshfield, survey and removing rocks	1,800 00	8,658 75
North River, Salem, survey	—	719 45
North Scituate—see Scituate		
Oak Bluffs, removing rocks	—	594 95
Oak Bluffs, sea walls, bulkhead and jetties	60,000 00	160,757 24
Ocean Grove, Swansea, survey	—	143 23
Onset Bay, Wareham, survey and dredging	1,000 00	15,866 55
Orleans, survey	—	104 18
Palmers Pond, Falmouth, survey	—	358 76
Pamet River, Truro, survey, dredging and repair- ing jetties	1,200 00	198,429 21
Paskamansett River, Dartmouth, dredging and jetty	—	5,227 68
Penikese Island, Gosnold, pile wharf and survey	—	5,192 95
Pines River, Revere and Saugus, survey	—	904 80
Pleasant Bay, Chatham, dredging	600 00	2,364 33
Plum Island River, Newbury and Newburyport, survey	—	983 31
Plymouth Harbor, dredging and removing old piling	92,794 55 ⁹	352,760 74
Plymouth Memorial Park, dredging and mainte- nance	—	86,719 26
Point Shirley, Winthrop—see Winthrop Shore		
Poponessett Bay, Barnstable and Mashpee, dredg- ing	—	46,252 33
Powow River, Amesbury, dredging channel and rip- rapping wall	—	502 94

⁸ Paid by Surety Company.⁹ \$57,000 expended under direction U. S. Government.

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Province Lands, Provincetown, reclamation . . .	—	176,276 81
Provincetown Harbor, shore protection . . .	2,575 00	45,302 99
Quamisset Harbor, Falmouth, survey . . .	—	710 31
Quanset Harbor, Orleans, survey and dredging . . .	500 00	2,194 50
Red Brook Harbor, Bourne, removing pier . . .	—	275 00
Revere, stone breakwater . . .	—	60,397 93
Rock Harbor, Orleans, timber bulkhead, platform and dredging . . .	10,400 00	37,753 77
Rockport Harbor, Rockport, dredging and remov- ing rocks . . .	4,750 00	32,945 41
Roughans Point, Revere . . .	—	250 65
Sagamore Beach, Bourne, stone jetties and riprap . . .	5,000 00	10,591 83
Salem Harbor, Salem, survey . . .	—	1,509 92
Salisbury Beach, survey . . .	—	5,051 52
Salt Pond River, Eastham, survey . . .	—	210 11
Salters Point, Dartmouth, breakwater . . .	4,500 00	42,939 57
Sand Hills, Scituate—see Scituate		
Sandwich Harbor, Sandwich, dredging channel, rip- rap and jetties . . .	—	80,579 84
Saugus River, Lynn and Saugus, survey and dredg- ing . . .	2,000 00	20,855 61
Scituate, shore protection . . .	75,000 00	
Beach Street, Scituate, wall and breakwater . . .	17,333 52	34,782 50
Cedar Point, Scituate, wall and breakwater . . .	21,446 64	41,298 70
First and Second Cliffs, Scituate, wall and riprap . . .	2,797 92	19,553 12
Glades, North Scituate, filling and riprap . . .	13,250 78	40,164 61
Humarock Beach, Scituate, survey, wall and jetties . . .	37,816 38	83,583 74
North Scituate, Surfside, sea wall, jetties and riprap . . .	2,194 68	34,412 20
Sand Hills, Scituate, survey, wall and jetties . . .	6,011 26	38,170 07
Third Cliff, Scituate, riprap and survey . . .	75,193 10	139,384 98
General Surveys at Scituate . . .	—	543 73
Shore Acres, Scituate, riprap . . .	—	20,488 98
Sand Hills to Shore Acres, sea wall, jetties and riprap . . .	—	33,490 52
Scituate Harbor, dredging and surveys . . .	53,300 00	217,503 61
Seorton Harbor, Sandwich, jetty and dredging . . .	500 00	17,774 34
Seapuit River, Barnstable, dredging . . .	13,000 00	25,110 95
Sengekontacket Pond, Oak Bluffs, survey . . .	—	329 28
Sesuit Harbor, Dennis, jetty . . .	1,500 00	24,555 10
Shirley Gut, Winthrop, survey . . .	—	201 06
Singing Beach, Manchester, survey . . .	7,562 50	12,732 92
Sippican Harbor, Marion, survey . . .	—	615 66
Smiths Cove, Gloucester, survey and dredging . . .	3,875 00	29,784 31
South Harwich, stone jetties and riprap . . .	2,500 00	5,351 97
South Hyannis, Barnstable, survey . . .	7,987 34	41.15
South River, Marshfield and Scituate, survey . . .	—	724 85
South River, Salem, dredging . . .	3,000 00	13,462 66
South Watuppa Pond, Fall River, fenders and excavation . . .	—	203 42
South Yarmouth Beach, Yarmouth, jetties . . .	5,000 00	8,480 86
Stage Harbor, Chatham, dikes and survey . . .	—	14,901 80
Stream Gauging—see Conservation of Waters		
Swampscott, survey . . .	—	103 46
Swan Pond River, Dennis—see Dennis		

<i>Location and Character of Work</i>	Contribution by		Total
	Municipality	or Others	Expenditure
Taunton-Brockton, waterway investigation . . .	—	—	5,278 18
Taunton River, survey and dredging . . .	42,500	00	31,561 95
Taunton River-Boston Harbor Canal, survey . .	—	—	9,932 75
Taunton River-Massachusetts Bay Canal, survey .	—	—	11,786 71
Truro Beach, survey . . .	—	—	71 74
Vineyard Haven Harbor, Tisbury, breakwater and dredging . . .	1,000	00	45,518 25
Vineyard Haven Harbor, repairing sea wall . .	2,380	50	11,945 01
Waquoit Bay, Falmouth, breakwater, wall, bulkhead and dredging . . .	17,500	00	107,727 59
Wareham River, Wareham, survey and dredging .	5,000	00	42,567 93
Warrens Cove, Plymouth, sea wall and survey .	15,213	98	38,412 87
Watch Hill, Chatham, survey and riprap . . .	—	—	14,968 75
Water Conservation—see Conservation of Waters			
Wellfleet Harbor, Wellfleet, survey and dredging .	1,500	00	17,600 29
West Bay, Barnstable and Osterville, dredging, jetties and riprap . . .	17,216	35	120,337 08
West Chop, Tisbury, stone jetties . . .	6,500	00	13,045 53
West Dennis Beach—see Dennis			
West Falmouth Harbor, Falmouth, surveys, dredging and breakwater . . .	23,973	75	69,107 05
West Harwich Beach, Harwich, shore protection .	6,400	00	27,242 50
Western Avenue Seawall, Gloucester — see Gloucester			
Westfield River, Westfield, survey and jetties . .	—	—	6,037 29
Westport Harbor, Westport, jetty extension and repairs . . .	—	—	21,928 88
Westport River, Westport . . .	—	—	476 70.
Wild Harbor, Falmouth, jetty and dredging . . .	15,000	00	55,128 66
Winthrop Shore, Winthrop, sea walls and protective work . . .	81,500	00	341,698 89
Wychmere Harbor, Harwich, jetties and dredging .	6,500	00	70,027 91
Woods Hole, Great Harbor, Falmouth, dredging .	1,500	00	6,968 86
Wrecks, removal from tidewater . . .	—	—	21,803 04
Yarmouthport Harbor, survey . . .	7,000	00	95,977 37
Total . . .	\$1,789,954	47	\$9,110,531 03

FEDERAL APPROPRIATIONS AND EXPENDITURES

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the close of the fiscal year ending June 30, 1935, are shown in the following tables furnished by the Chief of Engineers, U. S. Army:—

TABLE NO. 1.—*Localities at Present Under Improvement*

<i>Locality</i>	Expenditures	Appropriations
Gloucester Harbor and Annisquam River . . .	\$552,639 65	\$552,639 65
Lynn Harbor . . .	797,797 49	813,940 94
Boston Harbor . . .	14,730,439 60	14,747,231 81
Plymouth Harbor . . .	471,881 35	471,881 35***
Cape Cod Canal . . .	18,515,518 39	24,444,384 79
Operating and Care, Cape Cod Canal . . .	1,650,597 99	1,835,946 01
Pollock Rip Shoals, Nantucket Sound . . .	1,437,921 25	1,517,029 26
Cross Rip Shoals, Nantucket Sound . . .	42,837 20	48,837 20
New Bedford and Fairhaven Harbor . . .	1,339,922 28	1,750,703 34

*** Exclusive of \$108,400 contributed funds.

<i>Locality</i>	Expenditures	Appropriations
Fall River Harbor	790,149 49	790,149 49
Taunton River	383,838 10	383,838 10
Total	\$40,713,542 79	\$47,356,581 94

TABLE No. 2.—*Localities in Which Work is Not Now in Progress*

<i>Locality</i>	Expenditures	Appropriations
Newburyport Harbor	\$506,708 13	\$506,708 13
Merrimack River	404,466 72	404,466 72
Malden River	149,950 00	149,950 00***
Sandy Bay, Cape Ann, Harbor of Refuge	1,941,478 00	1,941,478 00
Bass River	20,150 41	20,150 41
Buzzards Bay Harbor	2,500 00	2,500 00
Canapitset Channel	9,112 54	9,800 00
Chatham Harbor	12,171 36	13,732 79
Cohasset Harbor	10,000 00	10,000 00
Duxbury Harbor	37,000 00	37,000 00
East Dennis Breakwater	7 57	1,500 00
Edgartown Harbor	25,000 00	25,000 00
Essex River	30,000 00	30,000 00
Hingham Harbor	38,316 58	38,316 58
Hyannis Harbor	221,787 75	221,267 07
Ipswich River	5,617 91	5,617 91
Kingston Harbor	8,940 09	10,000 00
Little Harbor, Woods Hole	18,000 00	18,000 00
Manchester Harbor	23,985 57	23,985 57
Marblehead Harbor	833 42	1,900 00
Martha's Vineyard (Edgartown Harbor)	30,000 00	30,000 00
Powow River	50,940 72	51,000 00
Rockport Harbor	91,229 23	91,229 25
Town River	37,577 41	37,577 41
Vineyard Haven Harbor	55,387 35	55,387 35
Wareham Harbor	95,997 30	96,236 00
Wellfleet Harbor	11,365 57	16,000 00
Westport Harbor and River	3,000 00	3,000 00
Winthrop Harbor	9,000 00	9,000 00
Woods Hole Channel	343,599 92	344,000 00
Beverly Harbor	246,690 41	246,690 41**
Salem Harbor	107,956 57	107,956 57
Mystic River	306,684 84	781,684 84
Dorchester Bay and Neponset River	128,176 44	128,176 44
Weymouth Fore River	641,150 00	641,150 00**
Weymouth Back River	27,000 00	27,000 00
Scituate Harbor	126,590 98	126,590 98
Provincetown Harbor	348,062 72	348,062 72
Harbor of Refuge at Nantucket	694,860 29	809,082 83
Total	\$6,821,295 82	\$7,421,197 98

RECAPITULATION

Total of Table No. 1	\$40,713,542 79	\$47,356,581 94
Total of Table No. 2	6,821,295 82	7,421,197 98
Total	\$47,534,838 61	\$54,777,779 92

** Exclusive of \$100,000 contributed funds.

*** Exclusive of \$62,000 contributed funds.

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
411	West Chop, Tisbury,—shore protection . . .	Merritt-Chapman and Scott Corporation	Aug. 28, 1934
413	Winthrop Breakwater Extension . . .	William R. Farrell .	Aug. 1, 1934
414	Bass River, Beverly,—dredging . . .	Bay State Dredging & Contracting Co. .	Jan. 8, 1935
416	Manomet Point, Plymouth,—protective work .	M. J. Crowley . .	Aug. 21, 1934
417	Singing Beach, Manchester,—protective work .	Thomas A. Mackey .	Aug. 28, 1934
418	Hough's Neck, Quincy,—shore protection . .	City of Quincy . .	Aug. 14, 1934
419	Mystic River,—dredging above and below Malden Bridge	J. S. Packard Dredging Company . . .	Sept. 11, 1934
421	Repairs to pile and timber work at Commonwealth Piers No. 1 and No. 5, at Boston	W. H. Ellis & Son Company	Oct. 30, 1934
422	Commonwealth Piers No. 1 and No. 5, and E Street Storehouse—Roof repairs	Atlantic Roofing & Skylight Works	Nov. 7, 1934
423	Commonwealth Pier 5,—installation of new sash and replacement of broken glass	Maurice M. Devine .	Nov. 13, 1934
424	Pier 1, East Boston,—steel sliding doors . .	Roy Wason . . .	Nov. 13, 1934
425	Castle Island Bulkhead, South Boston . . .	John P. Cavanagh .	Nov. 27, 1934
426	Commonwealth Pier 5,—painting doors and sash in Headhouse	John S. Leonard . .	Nov. 13, 1934
427	Commonwealth Pier 1, East Boston,—movable gangway	Waghorne-Brown Company	Nov. 20, 1934
428	Nobscusset Harbor, Dennis—stonerip-rap . .	Thomas Whalen & Sons, Inc.	Jan. 15, 1935
429	Singing Beach, Manchester,—stone riprap . .	Thomas Whalen & Sons, Inc.	Feb. 5, 1935
430	Great Pond, Falmouth, excavation and jetty .	Frederick V. Lawrence .	May 21, 1935
432	Duxbury Bay, Duxbury—dredging . . .	Bay State Dredging and Contracting Company	Apr. 30, 1935
433	Rock Harbor, Orleans—dredging . . .	Herbert T. Gerrish .	May 21, 1935
434	Falmouth Inner Harbor and West Falmouth Harbor, dredging	Herbert T. Gerrish .	May 21, 1935
435	Old Silver Beach, Falmouth . . .	Frederick V. Lawrence .	May 21, 1935
436	Mystic River,—dredging above and below Malden Bridge	J. S. Packard Dredging Company . . .	July 2, 1935
437	Hyannisport Breakwater—stone extension . .	Bay State Dredging and Contracting Company.	June 11, 1935

AND IN FORCE DURING THE YEAR ENDING NOVEMBER 30, 1935

Condition of Work	Contract Price
Completed	For each ton of stone riprap or chips furnished in place in the completed work, \$4.86.
Jan. 12, 1935	For each ton of stone riprap furnished in place in the completed work, \$1.97.
Completed	For dredging and disposing of dredged material 50 cents per cubic yard, scow measurement.
Jan. 6, 1935	For removing and disposing of boulders \$20 per cubic yard.
Mar. 11, 1935	For stone riprap furnished in place in the completed work, \$1.75 per ton.
Completed	For furnishing material and filling back of riprap, 30 cents per cubic yard measured in place in the completed work.
Mar. 9, 1935	For each ton of riprap furnished and placed in the completed work, \$1.85.
Completed	For each cubic yard of gravel or crushed stone furnished and placed in the completed work, 90 cents.
Mar. 23, 1935	For each square yard of bank graded including the furnishing of material and incidental work, 20 cents.
In progress	Commonwealth to pay to City one-half of cost of all labor other than that furnished by Federal Government, one-half actual cost of materials and tools furnished, and one-half actual prices paid for rental of machinery and equipment employed in performance of work, provided the total amount to be paid by the State to the City does not exceed \$10,000,—as authorized by Ch. 322 of Acts of 1934 and by Item 60A of Ch. 384 of the Acts of 1934.
Completed	For dredging and disposing of dredged material 34.5 cents per cubic yard, scow measurement.
Dec. 28, 1934	For removing and disposing of all boulders \$20 per cubic yard.
Completed	Unit prices.
Feb. 8, 1935	Unit prices.
Completed	For each light of glass furnished and set to replace broken glass, 70 cents.
May 21, 1935	For each new sash approximately 18 ft. 4 $\frac{1}{8}$ in. by 9 ft. 7 $\frac{3}{4}$ in. furnished and set, \$112.
Completed	For each new sash approximately 18 ft. 4 $\frac{1}{8}$ in. by 8 ft. 3 $\frac{3}{8}$ in. furnished and set, \$90.
Apr. 17, 1935	For each steel sliding door furnished and erected, \$146.
Completed	For removing about 980 linear feet of bulkhead and disposing of all material, except that used in repair work, \$2.75 for each linear foot of bulkhead removed.
May 7, 1935	For repairing bulkhead by splicing and patching, \$40 for each M Ft. B M of lumber placed in the work.
Completed	For repairing bulkhead by driving sheeting \$60 for each M Ft. B M of lumber placed in the work.
Oct. 29, 1935	For refitting and securing piles \$5 for each pile refitted and secured.
Completed	For furnishing all ship spikes, bolts and washers, 15 cents for each pound used in the work.
Dec. 21, 1934	For furnishing all material, labor and equipment and painting doors and windows in Headhouse, the lump sum of \$285.
Completed	For furnishing and erecting in place in complete working order the movable gangway, the lump sum of \$1,844.
Feb. 12, 1935	For each ton of stone riprap furnished in place in the completed work \$2.23.
Completed	For each ton of riprap furnished and placed in the completed work \$2.50.
May 23, 1935	For each cubic yard of screened gravel or crushed stone furnished and placed in the completed work, \$1.65.
Completed	For each square yard of bank graded including the furnishing of material and all incidental work, 20 cents.
June 7, 1935	For excavating and disposing of the excavated material, 39 cents for each cubic yard.
Completed	For removing and disposing of all boulders in excess of one cubic yard in volume, \$1.00 for each cubic yard.
Sept. 20, 1935	For furnishing and placing granite stone riprap and granite chips in the jetty and including all incidental work, \$2.83 per ton.
Completed	For dredging and disposing of dredged material 59.6 cents per cubic yard, scow measurement.
June 6, 1935	For removing and disposing of boulders \$20 per cubic yard.
Completed	For dredging channel and basin and disposing of excavated material on marsh or flats adjacent to the work, including the construction of necessary dikes, sluices or other barriers, 46 cents for each cubic yard measured in place.
Sept. 28, 1935	For removing and disposing of all boulders, \$10 for each cubic yard.
In progress	For dredging and disposing of the excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barrier, 56 cents for each cubic yard measured in place.
Completed	For removing and disposing of all boulders, \$20 per cubic yard.
July 23, 1935	For furnishing and placing stone riprap and granite chips in the jetty and return wall and excavating, including all incidental work, \$2.39 for each ton of 2,000 pounds.
Completed	For dredging and disposing of the dredged material 54.5 cents per cubic yard, scow measurement.
Aug. 12, 1935	For removing and disposing of boulders \$20 per cubic yard.
Completed	For each ton of stone riprap furnished in place in the completed work, including all incidental work, \$2.94.
Sept. 6, 1935	

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON- TRACT No.	Work	Contractor	Date
438	Allens Harbor and Herring River, Harwich,—dredging.	Herbert T. Gerrish .	June 18, 1935
439	Winthrop,—breakwater extension	William R. Farrell .	July 9, 1935
440	Plymouth State Pier,—building a pile and timber bulkhead and dredging	Lee Construction Com- pany, Inc.	July 16, 1935
441	Harwich,—shore protection	Frederick V. Lawrence .	Aug. 12, 1935
442	East Boston, removal of wreck of towboat "Esther Rendle" from National Docks	M & R Construction Company	Aug. 13, 1935
443	Waquoit Bay and Falmouth Inner Harbor,—repairs to jetties.	William R. Farrell & Son, Inc.	Aug. 14, 1935
444	Winthrop,—dredging in Pleasant Park Channel & Belle Isle Inlet.	Bay State Dredging & Contracting Co.	Aug. 27, 1935
445	Barnstable,—Seawall and jetties at South Hyannis .	Harry L. Jones . . .	Sept. 3, 1935
446	South Yarmouth Beach,—stone jetties	Frederick V. Lawrence .	Sept. 3, 1935
448	Squaw Island Road, Barnstable,—stone jetties .	Frederick V. Lawrence .	Sept. 4, 1935
449	Town River, Quincy—dredging	J. S. Packard Dredging Co.	Sept. 4, 1935
450	Onset Bay, Wareham—dredging	Herbert T. Gerrish .	Oct. 4, 1935
451	Plymouth Harbor—dredging	Bay State Dredging & Contracting Co.	Oct. 4, 1935
452	Smith's Cove, Gloucester,—dredging	J. S. Packard Dredging Company.	Oct. 4, 1935
453	Manchester Harbor,—dredging	Bay State Dredging and Contracting Company.	Oct. 4, 1935
454	Scituate Harbor,—dredging	Bay State Dredging and Contracting Company.	Oct. 4, 1935
455	Menamsha Creek, Chilmark and Gay Head—dredging.	Bay State Dredging and Contracting Company.	Oct. 4, 1935
456	Commonwealth Pier 5, South Boston—office partitions.	Morris Slotnick . . .	Nov. 5, 1935

AND IN FORCE DURING THE YEAR ENDING NOVEMBER 30, 1935

Condition of Work	Contract Price
Not yet begun (1935)	For dredging and disposing of excavated material on land, flats or at sea, 43 cents for each cubic yard measured in place.
Completed Sept. 3, 1935	For removing and disposing of all boulders, \$20 for each cubic yard.
In progress	For each ton of stone riprap furnished in place in the completed work, \$2.17.
Completed Nov. 23, 1935	For dredging 60 cents per cubic yard measured in place.
Completed Sept. 28, 1935	For removal of boulders, \$5 per cubic yard.
Completed Oct. 22, 1935	For building pier and bulkhead,—unit prices.
	For furnishing and placing granite stone riprap and chips in the jetties, \$2.68, for each ton of 2,000 pounds.
	For removing and disposing of the wreck of the "Esther Rendle," the lump sum of \$723.
	WAQUOIT BAY:
	For each ton of heavy stone riprap furnished in place in the completed work, \$3.37.
	For each ton of stone chips furnished in place in the completed work, \$3.57.
	FALMOUTH INNER HARBOR:
	For each ton of heavy stone riprap furnished in place in the completed work, \$3.37.
	For each ton of fine stone chips furnished in place in the completed work, \$4.27.
	For each cubic yard of material excavated and backfilled in the completed work, \$1.00.
Completed Sept. 27, 1935	For dredging areas specified to depths indicated and disposing of dredged material, 56.8 cents per cubic yard measured in scows.
Not yet completed (1935)	For removing and disposing of all boulders, \$20 per cubic yard.
	For furnishing material and constructing concrete sea wall, including all excavation, back filling, removing old walls, crib work, steps, drains and cesspools and all incidental work, \$9.90 for each cubic yard of concrete measured in the completed work.
	For furnishing and placing stone riprap and granite chips in the jetties, \$3 for each ton of 2,000 pounds.
Completed Nov. 30, 1935	For furnishing and placing granite stone riprap and chips in the jetties, \$2.73 for each ton of 2,000 pounds.
In progress	For furnishing and placing granite stone riprap and chips in the jetties, \$2.84 for each ton of 2,000 pounds.
Completed Nov. 15, 1935	For dredging and disposing of dredged material 54 cents per cubic yard, scow measurement.
Not yet completed (1935)	For removing and disposing of boulders \$20 for each cubic yard.
	For removing and disposing of boulders, \$20 per cubic yard.
	For dredging and disposing of the excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barrier, 51.5 cents per cubic yard, measured in place.
In progress	For dredging and disposing of dredged material 54.5 cents per cubic yard, scow measurement.
In progress	For removing and disposing of boulders, \$20 per cubic yard.
In progress	For dredging and disposing of the dredged material 54 cents per cubic yard, scow measurement.
In progress	For removing and disposing of boulders \$25 per cubic yard.
In progress	For dredging and disposing of the dredged material 49.8 cents per cubic yard, scow measurement.
In progress	For removing and disposing of boulders, \$20 per cubic yard.
In progress	For dredging and disposing of the dredged material, 56.3 cents per cubic yard, scow measurement.
In progress	For removing and disposing of boulders, \$20 per cubic yard.
	For dredging and disposing of excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barriers, 54 cents for each cubic yard measured in place.
Completed Nov. 23, 1915	For removing and disposing of boulders, \$20 per cubic yard.
	Unit prices.

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The Commonwealth of Massachusetts

SEVENTEENTH ANNUAL REPORT

OF THE

DEPARTMENT OF PUBLIC WORKS

YEAR ENDING NOVEMBER 30, 1936

*To the Honorable Senate and House of Representatives of the
Commonwealth of Massachusetts:*

In accordance with the provisions of law, I have the honor, as Commissioner of Public Works, to submit the seventeenth annual report of the Department of Public Works for the year ending November 30, 1936.

The organization of the Department, as defined in Chapter 16, General Laws, as amended by Chapter 297, Acts of 1927, was as follows:

Commissioner of Public Works, WILLIAM F. CALLAHAN

Associate Commissioner, RICHARD K. HALE

Associate Commissioner, FRANK E. LYMAN

Office Building. The office building for this Department is intended to accommodate the various offices of the Department which are located in Boston. Any space not immediately needed for its activities is to be assigned for other State Departments at reasonable rental figures.

Highways. The mileage of new State highways laid out during the year amounted to 13.03 miles, but there were abandoned or discontinued 1.27 miles of State highways, so that the net mileage of State highways amounted to 1,887.14 miles at the end of the year.

The Department has constructed, reconstructed and widened 51.889 miles of State highways and built 115.542 miles of roads in co-operation with cities, towns and counties under the provisions of Chapter 90, General Laws.

Under the provisions of Section 26, Chapter 81, General Laws, the Department has had charge of the repair and maintenance of 8,935 miles of public ways exclusive of State highways in 177 towns.

Bond Issue. Under the provisions of Chapter 464, Acts of 1935, the Department continued this year the execution of projects of the several classes defined as either highway projects or waterways projects, for the purpose of alleviating conditions resulting from unemployment. During the year the great majority of the cities and towns began work on highway projects approved by the Department, for which this act allotted \$2,300,000. Sidewalk projects were carried out by the Department in cooperation with W. P. A. funds and approval, a total of \$4,000,000 of State funds being contributed by the terms of this act. Construction was begun on projects financed in part through the Bond Issue allotment of \$1,741,877 matched by the Federal Funds under the Hayden-Cartwright Act of 1934. Grade crossing abolitions and highway projects financed in part by the Bond Issue allotments were carried out, as well as the Federal funds designated as "Works Program Highway Funds" amounting to \$3,262,885 and Works Program Grade Crossing Elimination projects carried out in co-operation with the Bureau of Public Roads, with Federal Funds amounting to \$4,210,833.

The reconstruction of the wharf foundations of Commonwealth Pier 5 at South Boston was carried out with funds authorized by this act, together with funds provided by the Federal Government under the Federal Emergency Administration of Public Works. Also, dredging in Boston Harbor and at Weymouth Fore River was done with Bond Issue funds. As a result of this expenditure, the Federal Government has undertaken the deepening of the main ship channel of Boston Harbor to a depth of 40 feet at mean low water.

The engineering and clerical staff of the Department was as follows:

Chief Engineer, GEORGE H. DELANO¹

Highway Engineer, (Projects), FRANKLIN C. PILLSBURY.

Highway Engineer, (Construction), RAYMOND W. COBURN.

¹ Appointed January 1, 1936.

Highway Engineer, (Construction), (Chapter 90, roads),

WILLIAM F. DONOVAN¹

Highway Engineer, (Maintenance), JAMES E. LAWRENCE²

Highway Engineer, (Traffic), EDGAR F. COPELL³

Bridge Engineer, GEORGE E. HARKNESS.

District Highway Engineers:—

District No. 1, George A. Curtis—Berkshire County and the towns of Worthington, Middlefield and Huntington in Hampshire County, and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2, H. D. PHILLIPS—Franklin, Hampshire and Hampden Counties, with the following exceptions: three towns in Hampshire County included in District No. 1 and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON—Worcester County and the towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN—Middlesex County.

District No. 5, JOSEPH A. MCCARTHY⁴—Essex and Suffolk Counties.

District No. 6, H. O. PARKER—Norfolk and Bristol Counties.

District No. 7, JOHN E. TROY—Plymouth, Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer, for Boston Harbor—JOHN N. FERGUSON.

District Waterways Engineer, for harbors and waterways outside Boston Harbor—FRANCIS L. SELLOW.

Secretary, Mary A. RILEY.

Financial Secretary, FRED FAIR.

Registry of Motor Vehicles

Registrar, FRANK A. GOODWIN.

Deputy Registrar, ANTHONY A. BONZAGNI.

Assistant to the Registrar of Motor Vehicles, ALFRED W. DEVINE.

Chief Administrative Clerk, CHARLES R. GILLEY.

Chief Inspector of Motor Vehicles, ALBERT S. OLSSON.

A detailed report of the activities of the Department for the year is presented herewith.

WILLIAM F. CALLAHAN,
Commissioner of Public Works.

December 1, 1936.

SPECIAL REPORTS TO THE LEGISLATURE

The Department was authorized and directed by the Legislature to make certain investigations, and the reports thereon were made as follows:

The discharge of sewage from the Metropolitan Sewerage Districts into Boston Harbor and its tributary waters. Report made Nov. 21, 1935 by the Special Commission directed to investigate, under Chapter 42, Resolves of 1935. (H. 164 of 1936)

Dredging Westport River in Westport. Report made November 30, 1935, by the Department of Public Works under Chapter 29, Resolves of 1935. (H. 166 of 1936.)

Certain Ways, Bridges, Beaches and Recreational Facilities. Joint Report made Dec. 4, 1935, by the Metropolitan District Commission and the Department of Public Works, acting as a joint board under Chapter 50, Resolves of 1935 (Sen. 100 of 1936).

RECOMMENDATIONS FOR LEGISLATION

The Commissioner of Public Works presented to the State Secretary on December 2, 1936, as required by law, that part of the current annual report which contains recommendations or suggestions for Legislative action as follows:—

1. The Department annually receives requests for the construction of sea walls or other works for the protection of the shores of many towns from erosion

¹ Appointed March 16, 1936.

² Appointed May 1, 1936.

³ Appointed December 3, 1935.

⁴ Appointed November 16, 1936.

by the sea. The total estimated cost of such construction is far in excess of the funds which the Department has available under the appropriation items for the improvement, development and protection of rivers and harbors, tidewaters and foreshores.

The appropriation items provide that all such expenditure shall be on condition that at least 50 per cent of the cost is covered by contributions from municipalities or other organizations and individuals.

It is believed that authorization should be provided to permit all counties to contribute to the cost of constructing such protective works, both from damage by the sea and erosion by rivers in all parts of the Commonwealth, in order that it might to some extent reduce the burden to which municipalities and individual owners of property bordering thereon are subject when such work is done.

2. The development and modernization of the pier facilities for the expeditious handling of both passengers and freight at the Port of Boston is deemed necessary. In order to accomplish this the Department recommends that it be authorized to acquire any land that may be necessary, and to construct a pier or a series of piers thereon or on lands of the Commonwealth, provided that a lessee or lessees execute a lease of such piers with such a rental that the cost will be amortized over a period of thirty years; and the construction of a pier as a public landing at South Boston.

3. In order to provide for the improvement of Edgartown Harbor, a recommendation is made that an appropriation be made by the Commonwealth, on condition that an appropriation is made by the Federal Government and a contribution is made by the town of Edgartown for this project.

4. The development of the state highway system would be facilitated by an amendment to section 5, Chapter 81, General Laws, to provide that the Department of Public Works shall inaugurate steps to provide for the laying out of state highways in addition to the present law which authorizes county commissioners, aldermen or selectmen to file a petition with the Department requesting that a way be laid out as a state highway. It is believed that the Department should have the authority noted above, and that public hearings shall be ordered by the Department before such a layout is made.

5. On many state highway projects it is found necessary to make alterations to town roads which enter the state highway. Such alterations may be required on account of a necessary change in grade of the state highway which consequently requires a change in the grade of the entering town way, and this may affect the town way for some distance. At the present time, such alterations cannot be made unless such a road is laid out as a state highway, a step which does not seem desirable. It is recommended that the Department be authorized to alter or relocate such connecting town ways as may be necessary by the addition of a new section after section 7, Chapter 81, General Laws.

6. The procedure established by section 65, chapter 159, General Laws, for abolition of railroad grade crossings provides that the Department of Public Works shall annually on or before October 1, file with the Department of Public Utilities lists of grade crossings the abolition of which it suggests for early consideration. It is believed that the Department should be authorized to submit such lists from time to time rather than only once a year, in view of the fact that this restriction of this law delays the inauguration of steps to take advantage of Federal funds that may become available, and such steps as the Department would make in the preparation of construction programs.

(In order to expedite the construction and reconstruction of state highways and improvement of town and county ways under the provisions of chapter 90, General Laws, with funds appropriated annually, it is respectfully suggested that such appropriations for the work of this Department be made at an early date in the legislative session in order to take advantage of the construction season and to complete as much as possible of the contract work within the fiscal years for which funds are appropriated. This would facilitate the early allotment of funds for work under chapter 90.)

7. In a study of improvements for the state highway from Northampton to Greenfield, it becomes evident that when such work is undertaken it will be necessary to make some provisions for the crossings of the location of the Northampton branch of the New York, New Haven and Hartford Railroad in the towns of Hatfield and

Whately. It is understood that at present this railroad is not running, and no information is available as to any date when it may be in operation. It is recommended that in view of such conditions the Department be authorized to enter into agreement with the New York, New Haven and Hartford Railroad to eliminate these underpasses in reconstructing this highway, but that the Department will reconstruct any such underpasses at a later date if the railroad wishes to resume operation.

8. Chapter 433, Acts of 1936, authorizing the construction or reconstruction of bridges over the Connecticut River, provided for a total expenditure of not exceeding 1,000,000 for the Northampton-Hadley bridge. Investigations and present estimates of cost indicate that additional funds are necessary. It is recommended that the act referred to be amended to provide that the work shall be done, but that substantially half of the cost shall be met by Federal funds, whether or not from the Hayden-Cartwright Road Act.

APPROPRIATIONS

Chapter 304, Acts of 1936, making appropriations for the maintenance of departments, boards, commissions, institutions and certain activities of the Commonwealth, etc., in part, as follows:—

Item

Requirements for Extinguishing the State Debt.

222. For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of four million two hundred twenty-five thousand seven hundred twenty-one dollars and eighty-three cents, payable from the following accounts and funds in the following amounts:—
from the Highway Fund, three million four hundred seventy-nine thousand three hundred eighty-eight dollars and fifty cents; and the remainder from the General Fund \$4,225,721 83

Interest on the Public Debt.

223. For the payment of interest on the direct debt of the commonwealth, a sum not exceeding nine hundred twenty-five thousand dollars, of which sum five hundred sixty thousand dollars shall be paid from the Highway Fund . . . 925,000 00

Service of the Department of Banking and Insurance.

Division of Insurance:

309. For other personal services of the division, including expenses of the board of appeal and certain other costs of supervising motor vehicle liability insurance, a sum not exceeding two hundred twenty-seven thousand one hundred and ninety dollars, of which sum not more than thirty-five thousand dollars may be charged to the Highway Fund . . . 227,190 00

Service of the Department of Corporations and Taxation.

Corporations and Tax Divisions:—

315. For the salaries of certain positions filled by the commissioner, with the approval of the governor and council, and for additional clerical and other assistance, a sum not exceeding two hundred thirty-five thousand nine hundred dollars, of which sum not more than fifty thousand dollars may be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so called, and not more than fifty thousand dollars may be payable from fees collected under section twenty-seven of chapter one hundred and thirty-eight of the General Laws, as amended, to cover the estimated cost of collection of alcoholic beverages taxes, so called . . . 235,900 00

Service of the Department of Public Safety.

Division of State Police:

612.	For the salaries of officers, including detectives, a sum not exceeding four hundred ninety-six thousand five hundred sixty-five dollars, of which sum not more than two hundred thousand dollars may be charged to the Highway Fund	\$496,565 00
614	For other necessary expenses of the uniformed division, including traveling expenses of detectives, a sum not exceeding four hundred four thousand dollars, of which sum not more than one hundred fifty thousand dollars may be charged to the Highway Fund	404,000 00

Service of the Department of Public Works.

The appropriations made in the following four items are to be paid three quarters from the Highway Fund and one quarter from the Port of Boston receipts:

631.	For the salaries of the commissioner and the associate commissioners, a sum not exceeding nineteen thousand five hundred dollars	\$19,500 00
632.	For personal services of clerks and assistants to the commissioner, a sum not exceeding ninety-seven hundred and eighty dollars	9,780 00
633.	For traveling expenses of the commissioners, a sum not exceeding two thousand dollars	\$2,000 00
634.	For telephone service in the public works building, a sum not exceeding twenty-four thousand three hundred and twenty dollars	24,320 00

Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):

635.	For the maintenance and operation of the public works building, a sum not exceeding one hundred thirty-eight thousand two hundred and eighty dollars	138,280 00
636.	For the salaries of guards for the public works building, a sum not exceeding twenty-one thousand and thirty-eight dollars	21,038 00
637.	For personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding ninety-one thousand one hundred and forty dollars	91,140 00
638.	For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, a sum not exceeding fifteen thousand dollars	15,000 00
639.	For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding thirteen thousand five hundred dollars	13,500 00
640.	For the construction and repair of town and county ways, a sum not exceeding two million five hundred thousand dollars	2,500,000 00
641.	For aiding towns in the repair and improvement of public ways, a sum not exceeding one million four hundred fifty thousand dollars	1,450,000 00
642.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery;	

Item

	and for the maintenance of a nursery for roadside planting, a sum not exceeding four million six hundred thousand dollars	\$4,600,000 00
643.	For the purpose of enabling the department of public works to secure federal aid for the construction and reconstruction of highways, including bridges, a sum not exceeding two million eight hundred thousand dollars	2,800,000 00
644.	For administering the law relative to advertising signs near highways, a sum not exceeding twenty thousand dollars, to be paid from the General Fund	20,000 00
645.	For expenses of a topographical survey and map of the commonwealth, in addition to funds received from federal appropriations or private subscriptions, a sum not exceeding fifty thousand dollars	50,000 00
	Registration of Motor Vehicles:	
646.	For personal services, a sum not exceeding one million five thousand five hundred and forty dollars, of which sum fifteen thousand dollars may be charged to the General Fund, and the remainder shall be paid from the Highway Fund	1,005,540 00
647.	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding four hundred seventy thousand dollars, to be paid from the Highway Fund	470,000 00
648.	For printing and other expenses necessary in connection with publicity for certain safety work, a sum not exceeding one thousand dollars, to be paid from the Highway Fund	1,000 00
	Service of the Committee for Aeronautics:	
649.	For services other than personal, traveling expenses, office rent, publishing of report, office supplies and equipment, a sum not exceeding five thousand dollars	5,000 00
	Functions of the department relating to waterways and public lands:	
650.	For personal services of the chief engineer and assistants, a sum not exceeding fifty-seven thousand four hundred and thirty dollars	57,430 00
651.	For services other than personal, including printing pamphlet of laws and the annual report, and for necessary office and engineering supplies and equipment, a sum not exceeding sixteen hundred dollars	1,600 00
652.	For the care and maintenance of the province lands and of the lands acquired and structures erected by the Provincetown tercentenary commission, a sum not exceeding five thousand dollars	5,000 00
653.	For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds, a sum not exceeding twenty-two thousand five hundred dollars	22,500 00
654.	For the improvement, development and protection of rivers and harbors, tide waters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, and of great ponds, a sum not exceeding one hundred thousand dollars, and	

Item

any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered

		\$100,000 00
655.	For re-establishing and permanently marking certain triangulation points and sections, as required by order of the land court in accordance with section thirty-three of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, a sum not exceeding one thousand dollars	1,000 00
656.	For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding five hundred dollars	500 00
657.	For the operation and maintenance of the New Bedford state pier, a sum not exceeding twelve thousand dollars	12,000 00
658.	For the compensation of dumping inspectors, a sum not exceeding two thousand dollars	2,000 00
659.	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding five thousand dollars	5,000 00
660.	For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding four thousand dollars	4,000 00
661.	For the operation and maintenance of the Cape Cod Canal pier, a sum not exceeding forty-five hundred dollars	4,500 00
662a.	For the construction of a channel from Nantucket Sound to Sengekontacket Pond in the town of Oak Bluffs, and for certain other improvements, as authorized by chapter three hundred and seventy-four of the acts of nineteen hundred and thirty-five, a sum not exceeding twelve thousand five hundred dollars	12,500 00
	Functions of the department relating to Port of Boston (the following items are to be paid from the Port of Boston receipts):	
663.	For the construction of railroads and piers and for the development of certain land, a sum not exceeding ten thousand dollars	10,000 00
664.	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred twenty-three thousand dollars	123,000 00
665.	For the maintenance of pier one, at East Boston, a sum not exceeding four thousand dollars	4,000 00
666.	For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding one hundred ten thousand dollars	110,000 00
667.	For dredging channels and filling flats, a sum not exceeding ninety thousand dollars, the same to be in addition to any unexpended balance of the appropriation made for the purpose in the previous year	90,000 00

Miscellaneous

The following items are to be paid from the Highway Fund, with the approval of the Metropolitan District Commission:

691.	For maintenance of boulevards and parkways, a sum not exceeding six hundred seventy-one thousand two hundred and eleven dollars	\$671,211 00
692.	For resurfacing of boulevards and parkways, a sum not exceeding two hundred seventy-five thousand dollars	275,000 00
693.	For the cost of certain grading and landscaping, a sum not exceeding twenty-five thousand dollars	25,000 00
694.	For expense of supplies and services necessary for procuring Works Progress Administration funds, a sum not exceeding thirteen thousand dollars	13,000 00
695.	For maintenance of Wellington bridge, a sum not exceeding thirty-one hundred and thirty-eight dollars	3,138 00

Unclassified Accounts and Claims

For certain other aid:

701.	For the compensation of certain public employees for injuries sustained in the course of their employment, for present and previous years, as provided by section sixty-nine of chapter one hundred and fifty-two of the General Laws, as most recently amended by section seven of chapter three hundred and eighteen of the acts of nineteen hundred and thirty-three, a sum not exceeding seventy-five thousand dollars, of which sum not more than thirty thousand dollars may be charged to the Highway Fund	\$75,000 00
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DEFICIENCIES

For deficiencies in certain appropriations of previous years, in certain items, as follows:

Service of the Department of Public Works

For the maintenance and operation of the public works building, the sum of thirty-five hundred and nine dollars and nineteen cents, to be paid from the Highway Fund	3,509 19
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Registration of Motor Vehicles:

For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, the sum of nine hundred sixty-seven dollars and thirty cents, to be paid from the Highway Fund	967 30
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Functions of the department relating to waterways and public lands:

For the maintenance and repair of certain property in the town of Plymouth, the sum of three hundred forty-two dollars and ninety-eight cents	\$342 98
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Miscellaneous

For resurfacing of boulevards and parkways, the sum of one hundred dollars, to be paid from the Highway Fund, with the approval of the metropolitan district commission	100 00
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SECTION 3. To provide for increases in the salaries and compensation of certain state officers and employees to be granted under the provisions of sections forty-

five to fifty, inclusive, of chapter thirty of the General Laws, as appearing in the Tercentenary Edition thereof, there is hereby appropriated a sum not exceeding three hundred and fifty thousand dollars, of which sum not more than fifty-five thousand dollars shall be taken from the Highway Fund, not more than twenty thousand dollars from funds of the metropolitan district commission, and the balance from the General Fund, the same to be in addition to any appropriations otherwise made for such salaries and compensation. For the purpose of apportioning the appropriation made by this section, each sum expressed by section two of this act to be available in whole or in part for personal services shall be increased by such amount as will make available for salaries and compensation provided for thereby so much as is required to provide for the aforesaid increases in such salaries and compensation. The state comptroller, in setting up such items for personal services on the appropriation ledger in his bureau, shall take as the amounts appropriated therefor by section one and this section the sums so expressed as increased as aforesaid, and he shall forthwith notify each officer having charge of any office, department or undertaking which receives such an appropriation for personal services of the amount thereof as so set up. The division of personnel and standardization shall furnish, upon the request of the state comptroller, all necessary assistance in carrying out the provisions of this act.

SECTION 4. No expenditures in excess of appropriations provided for under this act shall be incurred by any department or institution, except in cases of emergency, and then only upon the prior written approval of the governor and council.

SECTION 6. No payment shall be made or obligation incurred under authority of any special appropriation made by this act for construction of public buildings or other improvements at state institutions until plans and specifications have been approved by the governor, unless otherwise provided by such rules and regulations as the governor may make.

SECTION 7. No expenses incurred for mid-day meals by state employees, others other than those who receive as part of their compensation a non-cash allowance in the form of full or complete boarding and housing, and those employees who are stationed beyond commuting distance from their homes for a period of more than twenty-four hours, shall be allowed by the commonwealth.

SUPPLEMENTARY APPROPRIATIONS

Chapter 432, Acts of 1936, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows:—

SECTION 1. To provide for supplementing certain items in the general appropriation act, and for certain new activities and projects, the sums set forth in section two, for the particular purposes and subject to the conditions stated therein, are hereby appropriated from the general fund or ordinary revenue of the commonwealth, unless some other source of revenue is expressed, subject to the provisions of law regulating the disbursement of public funds and the approval thereof.

SECTION 2.

Item

Interest on the Public Debt.

223. For the payment of interest on the direct debt of the commonwealth, a sum not exceeding thirty-one thousand two hundred thirty-six dollars and eleven cents, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose . . . \$31,236 11

Service of the Department of Public Works..

The appropriation made in the following item is to be paid three quarters from the Highway Fund and one quarter from the Port of Boston receipts:

634. For telephone service in the public works building, a sum not exceeding fifty-four hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose 5,400 00

Item

	Functions of the department relating to highways (the following appropriations, except as otherwise provided are made from the Highway Fund):	
636.	For the salaries of guards for the public works building, a sum not exceeding sixty-nine hundred and ninety-four dollars the same to be in addition to any amount heretofore appropriated for the purpose	\$6,994 00
637.	For personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding fifty-two hundred and eighty dollars, the same to be in addition to any amount heretofore appropriated for the purpose	5,280 00
638a.	For expense of membership of the department in the American Association of State Highway Officials, a sum not exceeding four hundred and fifty dollars	450 00
	The appropriation made by Item 645 of chapter three hundred and four of the acts of the current year is to be in addition to the unexpended balance of the appropriation made in the fiscal year nineteen hundred and thirty-five.	
	The appropriation made by Item 653b of chapter four hundred and ninety-seven of the acts of nineteen hundred and thirty-five is to be in addition to the appropriation made by Item 574b of chapter three hundred and eighty-four of the acts of nineteen hundred and thirty-four.	
	The comptroller is hereby authorized to certify for payment in anticipation of the receipts of the assessments on the municipalities of the metropolitan parks district and the city of Revere as authorized by chapter three hundred and seventy-five of the acts of nineteen hundred and thirty-four, as amended by chapter four hundred and eighty-seven of the acts of nineteen hundred and thirty-five, any expenses incurred, within the amount authorized, for the widening and reconstruction of Ocean avenue in the city of Revere, as authorized by said chapters.	
	Registration of Motor Vehicles:	
646.	For personal services, a sum not exceeding seventy-five hundred dollars, to be paid from the Highway Fund, and to be in addition to any amount heretofore appropriated for the purpose	7,500 00
647.	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding ten thousand dollars, to be paid from the Highway Fund, and to be in addition to any amount heretofore appropriated for the purpose	10,000 00
	Functions of the department relating to waterways and public lands:	
654a.	To provide for certain dredging in Provincetown Harbor, a sum not exceeding twenty thousand dollars	20,000 00
660.	For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding two thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	2,000 00
662b.	For expenses of an investigation relative to the site of Gloucester pier, a sum not exceeding one thousand dollars	1,000 00

Item
662c. For the furnishing of services and supplies in co-operation with federal authorities in connection with Works Progress Administration grants, a sum not exceeding fifty thousand dollars is hereby authorized to be paid out of the unexpended balance of the appropriation authorized by chapter one hundred and forty-four of the acts of the current year.

Miscellaneous

The following items are to be paid from the Highway Fund, with the approval of the Metropolitan District Commission:

- 691. For maintenance of boulevards and parkways, a sum not exceeding twelve hundred and seventy-five dollars, the same to be in addition to any amount heretofore appropriated for the purpose \$1,275 00
- 692a. For the cost of making repairs on account of flood damage in co-operation with federal authorities wherever Works Progress Administration grants are possible, a sum not exceeding twenty thousand dollars 20,000 00

Unclassified Accounts and Claims

For certain other aid:

- 701. For the compensation of certain public employees for injuries sustained in the course of their employment, for present and previous years, as provided by section sixty-nine of chapter one hundred and fifty-two of the General Laws, as amended, a sum not exceeding twenty-five thousand dollars, to be paid from the Highway Fund, and to be in addition to any amount heretofore appropriated for the purpose 25,000 00

DEFICIENCIES

For deficiencies in certain appropriations of previous years, in certain items, as follows:

Service of the Department of Public Works

- For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, the sum of nine hundred twenty-nine dollars and eighty cents, to be paid from the Highway Fund 929 80
- For the maintenance and operation of the public works building, the sum of five hundred eighty-four dollars and thirty-three cents, to be paid from the Highway Fund 584 33
- For the improvement, development and protection of rivers and harbors, tidewaters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, and of great ponds, the sum of forty-nine dollars and thirty cents 49 30
- For the settlement of certain land takings in connection with the construction of approaches for the Cape Cod Canal Pier, the sum of thirty-four thousand one hundred and twenty-five dollars 34,125 00

Other Appropriations

662d.	For the cost of constructing a sea wall at Roughan's Point, Revere, as authorized by chapter three hundred and fifty-eight of the acts of the current year, a sum not exceeding eighty-five thousand dollars, the same to be in addition to an appropriation of forty-two thousand five hundred dollars to be assessed as part of the cost of maintenance of parks reservations and to the further sum of forty-two thousand five hundred dollars to be paid into the treasury of the commonwealth by the city of Revere	\$85,000 00
645a.	For the cost of reconstructing a bridge over Mystic river between the city of Medford and the town of Arlington, a sum not exceeding thirty-seven thousand five hundred dollars, the same to be paid from the Highway Fund and to be in addition to contributions made by the metropolitan parks district, the county of Middlesex, the town of Arlington and the city of Medford, as authorized by chapter three hundred and seventy-seven of the acts of the current year	37,500 00

Chapter 437, Acts of 1936, further in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows:—

SECTION 1. To provide further for supplementing certain items in the general appropriation act, and for certain new activities and projects, the sums set forth in section two, for the particular purposes and subject to the conditions stated therein, are hereby appropriated from the general fund or ordinary revenue of the commonwealth, unless some other source of revenue is expressed, subject to the provisions of law regulating the disbursement of public funds and the approval thereof.

SECTION 2.

Item

Service of the Department of Public Works

Functions of the department relating to highways:

635.	For the maintenance and operation of the public works building, a sum not exceeding fifteen hundred dollars, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose	\$1,500 00
636.	For the salaries of guards for the public works building, a sum not exceeding ten thousand dollars, to be paid from the Highway Fund and to be in addition to any amount appropriated for the purpose	10,000 00
644.	For administering the law relative to advertising signs near highways, a sum not exceeding five thousand dollars, to be paid from the General Fund and to be in addition to any amount heretofore appropriated for the purpose	5,000 00

Functions of the department relating to waterways and public lands:

662.	For the cost of inspection of structures in tidewater outside of Boston Harbor, a sum not exceeding five thousand dollars	5,000 00
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Functions of the department relating to Port of Boston:

668.	For the cost of inspection of structures in tidewater within Boston Harbor, a sum not exceeding ten thousand dollars	10,000 00
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Other Appropriations

- 643a. For the cost of constructing certain bridges, as authorized by chapter four hundred and twenty-nine of the acts of the current year, a sum not exceeding two hundred twelve thousand five hundred dollars, the same to be paid from the Highway Fund and to be subject to the conditions of, and in addition to all other funds provided under, said chapter four hundred and twenty-nine \$212,500 00
- 643b. For the cost of constructing certain bridges, as authorized by chapter four hundred and thirty-three of the acts of the current year, a sum not exceeding one hundred and fifty thousand dollars, the same to be paid from the Highway Fund and to be subject to the conditions of, and in addition to all other funds provided under said chapter four hundred and thirty-three 150,000 00

The appropriation of two million dollars for reconstruction and repair of state highways damaged by floods, as made by chapter one hundred and eighty-six of the acts of the current year, is hereby reduced by the sum of one hundred and fifty-three thousand dollars, and said sum shall revert to the Highway Fund revenue account.

HIGHWAY FUND DIVERSION

Chapter 431, Acts of 1936, provided for the transfer of a portion of the proceeds of the gasoline tax from the Highway Fund to the General Fund, as follows:

WHEREAS, The deferred operation of this act would tend to defeat its purpose, therefore it is hereby declared to be an emergency law, necessary for the immediate preservation of the public convenience.

BE IT ENACTED, ETC., AS FOLLOWS:

The state treasurer is hereby authorized and directed to transfer the sum of three million six hundred and fifty thousand dollars from the Highway Fund to the General Fund.

FINANCIAL STATEMENTS

Summary of Income, Year Ending November 30, 1936

HIGHWAY FUND

(Section 34, Chapter 90, General Laws, as amended)
(See Chapter 288, Acts of 1925)

Fees (for registration of motor vehicles, licenses to operate, etc.), and fines (penalties, Sundry Courts), net receipts	\$6,699,393 85	
Gasoline Tax, net	18,377,265 84	
Contributions for highways and assessments (G. L., Ch. 81)	243,142 47	
Appropriation balances of previous years reverting	188,634 17	
Contributions and Refunds	8,919 65	
Sale of old materials and buildings	3,417 74	
Reimbursement for repairs to guard rail and other property	8,253 81	
Rent of property (Nursery)	190 00	
Rent of Space, Public Works Building	51,877 44	
Slot Machine Receipts	271 20	
Premium and Interest on Bonds	34,392 00	
		\$25,615,758 17

PORT OF BOSTON FUND

(Chapter 91, General Laws)

Rents (leases and permits)	\$143,024 95	
Reimbursement for services (inspection of dumping dredged material in Boston Harbor)	350 69	
Use of Commonwealth Pier 5 (wharfage, dockage, rentals, etc.)	181,561 34	
Use of Commonwealth Pier 1 (rentals, etc.)	5,902 15	
Revenue from permits for dumping dredged material at receiving basins	940 29	
License charges (for tidewater displacement and occupying Commonwealth tide lands (Boston Harbor)	8,520 80	
Telephone Pay Station receipts	334 54	
Sales of land	39,878 00	
Sundries	3,934 27	
Appropriation balances of previous years reverting	552 75	
		\$384,999 78

DEPARTMENT INCOME

(Ordinary Revenue)

Sales (specifications and plans for contracts)	\$3,498 00	
Reimbursement for services (inspection of dumping dredged material outside of Boston Harbor, Chap. 196, Acts of 1925)	90 23	
License charges (for tidewater displacement and occupying Commonwealth tide lands) outside of Boston Harbor	2,263 81	
Certified copying charges	134 00	
Sale of Atlas sheets and miscellaneous plans	999 18	
Use of Province Lands (S. 25, c. 91, G. L.)	177 00	
Permits for advertising signs	26,023 17	
Use of New Bedford State Pier	22,662 45	
Use of Cape Cod Canal State Pier	6,635 38	
Sundries	1 00	
		\$62,484 22

IMPROVEMENT OF RIVERS AND HARBORS TRUST

(Sections 11, 29, Chapter 91, General Laws)

Contributions from towns, individuals or others	\$85,834 50
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HIGHWAY TRUST

(Section 30, Chapter 81, General Laws)

Federal Aid (reimbursement from United States Government)	\$3,404,710 61
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OTHER FEDERAL AID ON CERTAIN PROJECTS -

Massachusetts Project 1301D—Comm. Pier 5	\$204,750 00	
Massachusetts Project 1286D—Hull	40,000 00	
	<hr/>	\$244,750 00

FUNDS CONTRIBUTED FOR WORK UNDER SPECIAL ACTS

Contribution by Metropolitan Parks District (Chap. 375, Acts of 1934)	\$152,500 00	
Contribution by City of Revere (Chap. 375, Acts of 1934)	29,440 64	
Contribution by Metropolitan Parks District (Chap. 358, Acts of 1936)	42,500 00	
Contribution by City of Revere (Chap. 358, Acts of 1936)	42,500 00	
	<hr/>	\$266,940 64
<i>Total</i>		<hr/> \$30,065,477 92

EXPENDITURES

The expenditures by the Department under the provisions of General Laws and other acts and the appropriation acts, chapters 304, 432, and 437, Acts of 1936, during the fiscal year ending November 30, 1936, were as follows:

ADMINISTRATIVE

Commissioner, Associate Commissioners, Personal Services of clerks, stenographers and Commis- sioners' Travel	\$30,541 63	
Public Works Building, operation and maintenance	146,185 34	
Salaries of Watchmen	35,562 78	
Telephone service	29,613 88	
	<hr/>	\$241,903 63
<i>Total</i>		\$241,903 63

RELATING TO HIGHWAYS

<i>Personal Services</i> —Chief Engineer, clerks and ste- nographers	96,955 21
Incidentals (printing, postage, supplies, etc.)	15,264 97
Advertising signs, regulation of, personal services and expenses	20,319 11
Suppression of gypsy and brown-tail moths on State highways in cities and towns	12,483 53
<i>State Highways</i> —Construction (Chap. 81, G. L.)	
General contract work	\$2,166,385 68
Engineering (Supervision)	518,502 83
Highway Testing Laboratory	7,278 32
Investigation of Worcester Pike	6,646 40
Services as consultant	3,411 64
Concrete Road Instruction	1,271 44
Inspection of bituminous concrete pavemen (Technical services)	185 39

Geodetic survey	\$497 70	
Chap. 241—Saugus River Bridge—Land taking.	600 00	
Fore River Bridge		
Substructure	\$215,273 94	
Superstructure	51,101 39	
	<hr/>	266,375 33
		<hr/>
		\$2,971,154 73
<i>Maintenance and Repair of State Highways</i> (Chap. 81, G. L.)		
<i>Reconstruction of State Highways</i>		
General contract work	\$384,326 41	
Engineering, supervision on reconstruction	269,238 17	
	<hr/>	653,564 58
<i>Ordinary Maintenance</i>		
General Maintenance	\$2,314,909 12	
Engineering (Supervision)	432,390 27	
Highway Testing Laboratory	20,422 01	
Care and repair of road building machinery	491,525 01	
Removal of snow on highways	923,283 11	
Road planting and development	24,913 19	
Traffic engineering, signs, and traffic count	366,242 43	
Paint manufacture	22,049 00	
Newburyport Bridge, Salisbury—Newburyport, over Merrimac River, maintenance and operation	4,498 06	
Brightman St. Bridge, Fall River—Somerset maintenance and operation	9,007 06	
New Bedford-Fairhaven Bridge, Acushnet River, maintenance and operation	42,569 96	
Quincy-Weymouth Bridge, maintenance and operation	13,487 40	
Route and detour maps	1,277 02	
Safety Advertising	12,000 00	
Geodetic Survey	4,928 52	
Tractor repairs	11,097 72	
Inspection of bituminous concrete pavement (Technical services)	1,843 12	
	<hr/>	\$4,696,443 00
<i>Construction of Town and County Ways</i> (Sect. 34, Chap. 90, G. L.)		
State's expenditures for work contracted for in cities and towns	\$1,395,555 01	
Engineering and expense (supervision)	494,253 60	
Inspection of bituminous concrete pavement (Technical services)	534 00	
	<hr/>	1,890,342 61
<i>Aiding Towns in the Repair and Improvement of Public Ways</i> (Sect. 26, Chap. 81, G. L.)		
State's expenditures for work contracted for in cities and towns	\$1,359,879 10	
Engineering and expense (supervision)	110,178 27	
	<hr/>	1,470,057 37
<i>Emergency Public Works Construction</i>		344,493 89
<i>Special Acts:</i>		
<i>Highways in Malden, Braintree, Hingham and Weymouth</i>		
Hingham, Braintree and Weymouth		532 00
<i>Highways in Metropolitan District</i> (Chap. 420, Acts of 1930 as amended by Chap. 450, Acts of 1931)		
Section 1. Canton-Dedham-Wellesley, etc.	\$9,090 00	

Section 2. Canterbury St., Boston	\$2,655 00	
Section 3. Land Taking—Neponset River— Milton	6,074 68	
Section 4. West Roxbury-Brookline Parkway	2,570 45	
		\$20,390 13
<i>Abolition of Grade Crossings</i> (Chap. 417, Acts of 1930)		9,606 08
<i>Alewife Brook Parkway Extension</i> (Chap. 302, Acts of 1932)		13,393 34
<i>Traffic Circle, Neponset River</i> (Chap. 341, Acts of 1934)		82,573 46
<i>Reconstruction of Ocean Ave., Revere</i> (Chap. 375, Acts of 1934)		410,604 74
<i>Study relative to Bridges, Turners Falls</i> (Chap. 314, Acts of 1934)		2,211 28
<i>Chelsea North Bridge</i> (Chap. 342, Acts of 1924)		33,306 48
<i>Temporary Bridges over Connecticut River</i> (Chap. 174, Acts of 1936)		450,000 00
<i>Repair of Certain Bridges</i> (Chap. 429, Acts of 1936)		49,998 45
<i>Topographical survey and maps</i>		62,056 99
<i>Expense of membership in American Association of State Highway Officials</i>		450 00
<i>Chap. 464, Acts of 1935—Bond Issue</i>		
Class 1. Cities and towns, engineering, etc.	\$222,809 25	
Class 2. Construction of sidewalks	3,559,302 74	
Class 3. Hayden-Cartwright Act	468,860 57	
Class 4. Grade crossings, etc.	2,588,987 19	
		6,839,959 75
<i>Chap. 186, Acts of 1936—State Highway Flood Damage</i>		1,760,943 40
<i>Total Expenditures for Highways</i>		\$21,907,105 10

SUMMARY OF EXPENDITURES RELATING TO WATERWAYS

General Expenses	\$58,426 25
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Boston Harbor:

Development of Rivers and Harbors (Chap. 464, Class 5, Acts of 1935)	772,980 92
Dredging and Filling	98,573 86
Free Port Investigation (Chap. 48, Resolves of 1934)	345 00
Hough's Neck, Quincy (Chap. 322, Acts of 1934)	1,519 46
Maintenance and Operation of Commonwealth Pier 5, South Boston	130,449 19
Maintenance and Operation of Commonwealth Pier 1, East Boston	2,206 66
Maintenance of Property	104,406 21
Streets, Piers and Railroads	6,126 99
Structures in Tidewater, Boston Harbor, inspection of	2,825 92

Outside Boston Harbor:

Cape Cod Canal Pier, operation and maintenance	4,615 41
Cape Cod Canal Pier, construction	34,125 00
Compensation of Dumping Inspectors	34 08
Development of Rivers and Harbors (Chap. 464, Class 5, Acts of 1935)	183,815 69
Gloucester Fish Pier, Investigation relative to site of (Chap. 432, Acts of 1936)	847 15
Improvement of Rivers and Harbors	135,529 59
New Bedford Pier, operation and maintenance	12,483 95
New Bedford Pier, Improvement of (Chap. 38)	5,613 05
Plymouth Property, expenses of	6,342 98
Plymouth Pier, Reconstruction (Chap. 429, Acts of 1935)	7,721 83

18	P.D. 54
Province Lands, expenses of	\$4,993 60
Provincetown Harbor, Dredging (Chap. 432, Acts 1936)	19,999 59
Repairing damages to shore	19,423 26
Roughans Point Sea Wall (Chap. 358, Acts 1936)	799 49
Salisbury Beach, Improvement of (Chap. 399, Acts 1934)	12,853 70
State Boundary Lines, perambulating	1,254 05
Structures in Tidewater outside Boston Harbor, Inspection of	1,213 89
Stream Gauging	5,000 00
Topographical Survey	912 92
Town Boundaries, surveying	432 66
W.P.A. Grants, Expenses in connection with (Chap. 432, Acts 1936)	14,698 84
<i>Total</i>	\$1,650,571 19

EXPENDITURES RELATING TO THE REGISTRY OF MOTOR VEHICLES

Cost of running the Registry of Motor Vehicles	\$1,493,497 12
Safety Work, Publicity	62 68
Committee on Aeronautics	2,425 61
<i>Total</i>	\$1,495,985 41

SUMMARY OF EXPENDITURES BY DEPARTMENT FOR YEAR ENDING NOVEMBER 30, 1936

Administrative	\$241,903 63
Relating to Highways	21,907,105 10
Registry of Motor Vehicles	1,495,985 41
Relating to Waterways	1,650,571 19
<i>Total</i>	\$25,295,565 33

CO-OPERATIVE WORK—SUPERVISION OF EXPENDITURES

The Department has supervised the expenditures during the year by cities, towns and counties, under Chapter 81, General Laws, as amended, of approximately \$2,049,053.89 for co-operative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Department.

Financial Statement Verified.
Approved.

GEO. E. MURPHY, *Comptroller*.

RELATING TO HIGHWAYS

GENERAL STATEMENT

State Highways.—During the year ending November 30, 1936, the Department laid out new State Highways amounting to 13.03 miles in 14 cities and towns. Under Chapter 81, General Laws, as amended by Chapter 427, Acts of 1931, 1.27 miles of State Highways were discontinued or abandoned. The total length of State Highways at the end of the year was 1,887.14 miles.

Highways Constructed in 1936.—Construction has been completed on 11.564 miles of State Highway and 115.542 miles of highway under the provisions of Section 34, Chapter 90, General Laws as amended, making a total of 127.106 miles completed during the year.

Of the above highways completed this year, the classification according to type of pavement is as follows:

- 4.092 miles of reinforced Cement Concrete
- 0.811 mile of Dual (Reinforced Concrete and Bituminous Macadam)
- 28.007 miles of Bituminous Macadam

12.300 miles of Bituminous Concrete
 35.962 miles of Bituminous Concrete (Mixed in Place)
 17.261 miles of Gravel with Bituminous Treatment
 13.418 miles of Gravel
 15.109 miles of Penolithic
 0.416 mile of Granite Block

Resurfacing, Reconstruction and Widening of State Highways.—During the year 6.264 miles of State Highway were widened but not resurfaced, and 34.061 miles were resurfaced or reconstructed and widened. In addition to this work on which the surfacing has been completed, there are several miles of road in various stages of completion which are scheduled to be finished next year.

The Resurfacing or Reconstruction of State Highways in 1936 was divided into types as follows:

0.619 mile of Reinforced Cement Concrete
 26.802 miles of Bituminous Macadam
 4.334 miles of Bituminous Concrete
 2.306 miles of Penolithic

Surveys, Plans and Estimates.—During the year ending November 30, 1936, preliminary surveys, plans and estimates were made as follows:

Reconnaissance surveys in cities and 14 towns, 35.72 miles;
 Reconnaissance plans in 2 cities and 13 towns, 39.85 miles;

For State Highway Construction.—Preliminary surveys in 14 cities and 27 towns, 53.641 miles; plans in 9 cities and 14 towns, 33.725 miles; preliminary estimates in 4 cities and 11 towns, 25.969 miles; lines and grades in 4 cities and 13 towns, 27.876 miles; and final surveys in 2 cities and 10 towns, 26.496 miles.

For State Highway Reconstruction.—Reconnaissance surveys and plans in 1 town, 1.34 miles; Preliminary surveys in 9 cities and 26 towns, 57.010 miles; plans in 7 cities and 16 towns, 30.050 miles; preliminary estimates in 4 cities and 7 towns, 20.720 miles; lines and grades in 4 cities and 6 towns, 20.950 miles; and final surveys in 2 cities and 6 towns, 17.162 miles.

For State Highway Maintenance.—Preliminary surveys in 6 cities and 35 towns, 55.894 miles; plans in 5 cities and 32 towns, 34.428 miles; preliminary estimates in 1 town, 0.009 mile; and lines and grades in 4 cities and 6 towns, 13.039 miles.

Under Section 34, Chapter 90, General Laws, as amended.—Reconnaissance surveys and plans in 2 towns, 1.50 miles; Preliminary surveys in 14 cities and 193 towns, 150.763 miles; plans in 17 cities and 193 towns, 197.756 miles; preliminary estimates in 14 cities and 92 towns 98.863 miles; lines and grades in 18 cities and 136 towns, 136.154 miles; and final surveys in 10 cities and 48 towns, 55.254 miles.

Under the Provisions of Various Acts and Resolves.—surveys, plans, estimates, lines and grades, and final surveys were made as follows:

Chapter 341, Acts of 1934: 0.0076 mile of final survey in 1 city.

Chapter 375, Acts of 1934: 0.767 mile of final survey in 1 city.

Chapter 429, Acts of 1936: 8.568 miles of preliminary surveys in 34 towns; 7.807 miles of plans in 34 towns; and 0.44 mile of preliminary estimates in 3 towns.

During the year the Massachusetts Geodetic Survey, which is a Works Progress Administration project sponsored by the Massachusetts Department of Public Works, has made level, traverse, and triangulation surveys, and has established bench marks, traverse and triangulation stations as follows:

480 miles of first order levels.

960 miles of second order levels.

1820 bench marks.

590 miles of second order traverse, including

870 monumented stations.

130 triangulation stations.

50 magnetic stations.

Permits.—There were 1,418 permits issued during the year for opening or occupying State Highways for various purposes.

Engineering Advice to Other Departments.—Advice to Department of Education; preliminary; preliminary surveys and plans in 1 city, 0.008 miles; preliminary estimate in 1 city, 0.005 mile; lines and grades in 1 city and 1 town, 0.024 mile; and final surveys in 1 town, 0.019 mile.

Advice to Department of Mental Diseases; preliminary surveys and plans in 1 city and 2 towns, 1.259 miles; and preliminary estimates in 1 city, 0.408 mile.

Engineering Advice to Municipal Authorities.—The Department furnished engineering advice without charge to 7 cities and towns in accordance with the provisions of Section 1, Chapter 81, General Laws.

Approval of Specifications.—The Department approved during the year under the provisions of Section 7, Chapter 44, General Laws, as amended, specifications for the construction of roads in 8 cities and towns.

Planting of Trees on State Highways.—During the past year, 2538 trees were planted along roadsides making a total of 76,153 trees thus set out in the past thirty-two years. In addition there were planted throughout the State 4,250 shrubs.

PETITIONS, MEETINGS AND HEARINGS

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, chapter 81, General Laws; appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 167 cases; on the matter of outdoor advertising in 10 towns and cities; on the matter of special regulations for motor vehicles in Melrose and North Attleborough; on a petition for the relocation of street railway tracks on Ocean Avenue in Revere; on the matter of the amendment of Section 12 (Stopping and Turning Signals) of the rules and regulations for driving on State highways; on the abolition of grade crossings in 21 towns and cities; and on the matter of the revision of rules and regulations for the reasonable and proper control of the transportation by motor vehicles of personal property over public ways.

Petitions were received and contracts signed during the year as follows:

	Petitions	Contracts
State highways	7	26
Work under section 34, chapter 90, General Laws	—	460
Work under section 26, chapter 81, General Laws	177	177
Work under Special Acts	—	18
Abolition of Grade Crossings	—	17
Miscellaneous	—	3
Total	200	701

STATE HIGHWAYS

Petitions for State Highways

General Laws, Chapter 81, section 4 (Tercentenary Edition), provides that—

“If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city or town, they may apply, by a written petition, to the department, requesting that said way be laid out and taken charge of by the Commonwealth.”

Petitions under the aforesaid section have been received during the year as follows:—

MAYOR AND BOARD OF ALDERMAN OF NORTHAMPTON:—Road locally known as Hatfield Road, extending from North King Street to the dividing line between the city of Northampton and the town of Hatfield, at the Boston & Maine Railroad underpass. Received December 13, 1935.

BOARD OF SELECTMEN OF ORANGE:—Road locally known as South Road, extending southerly from Central Square for about two miles. Received December 27, 1935.

MAYOR AND BOARD OF ALDERMEN OF REVERE:—Road locally known as Squire Road, extending from Broadway westerly to a point near Stevens Street, thence on new location northwesterly to a point on the dividing line between the cities of Malden and Revere, near the intersection of Lynn and Salem

Streets. Also a highway on new location from the dividing line between the cities of Malden and Revere northwrely to the dividing line between the city of Revere and the town of Saugus. Received December 27, 1935.

BOARD OF SELECTMEN OF WESTMINSTER:—Road extending in part on new location from a point at or near West Main Street easterly to a point on the dividing line between the town of Westminster and the city of Fitchburg at or near Old Princeton Road. Received July 28, 1936.*

MAYOR AND BOARD OF ALDERMEN OF LEOMINSTER:—Road extending in part on new location from a point on the dividing line between the cities of Fitchburg and Leominster at or near Monoosnoc Brook easterly and southeasterly to a point on the dividing line between the city of Leominster and the town of Lancaster north of White Pond. Received August 6, 1936.

MAYOR AND BOARD OF ALDERMEN OF FITCHBURG:—Road extending in part on new location from a point on the dividing line between the town of Westminster and the city of Fitchburg at or near Old Princeton Road easterly to a point on the dividing line between the cities of Fitchburg and Leominster at or near Monoosnoc Brook. Received August 14, 1936.

BOARD OF SELECTMEN OF RANDOLPH:—Road locally known as the Taunton Turnpike extending from a point on the dividing line between the town of Randolph and the city of Quincy to the dividing line between the towns of Randolph and Canton. Received November 25, 1936.

CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS

(Chapter 81, General Laws, as amended)

The following contracts were entered into during the year for the construction and reconstruction of State highways, and work incidental thereto, in various municipalities:—

Dedham-Bourne

Dec. 31, 1935, contract made with George A. Marshall, of Somerville, for furnishing and installing traffic signals on State highways in Dedham and Bourne. The proposal amounted to \$1,614. Work completed Mar. 5, 1936. Expenditure during 1936, \$1,614.

Greenfield

Jan. 14, 1936, contract made with Antonio Pandiscio, of Fitchburg, for reconstructing about 3,076 feet of State highway on Deerfield Street, the surface consisting of bituminous macadam. The proposal amounted to \$58,156.95. Work completed Oct. 1, 1936. Expenditure during 1936, \$57,049.56.

Bourne

Feb. 12, 1936, contract made with Eastern Contracting Company, of Quincy, for constructing about 16,487 feet of State highway on North County Road and new location, the surface consisting of penolithic pavement. The proposal amounted to \$303,077.37. Work completed Oct. 24, 1936. Expenditure during 1936, \$260,736.22.

Quincy-Weymouth

Mar. 3, 1936, contract made with Edwin C. Lewis, Incorporated, of Boston, for furnishing and installing lighting equipment for the Fore River Bridge and approaches in Quincy and Weymouth. The proposal amounted to \$12,639.98. Work completed Nov. 7, 1936. Expenditure during 1936, \$12,667.55.

Lynn

April 1, 1936, contract made with G. Rotondi & Son, of Melrose, for reconstructing about 3,241 feet of State highway on Broad Street, the surface consisting of bituminous macadam. The proposal amounted to \$44,281.30. Work completed Oct. 21, 1936. Expenditure during 1936, \$58,724.36.

Boston-Dedham

April 15, 1936, contract made with Martino DeMatteo, of Boston, for constructing about 3,400 feet of sidewalks and miscellaneous work on the Dedham-Boston

Cut-Off near the junction of Spring Street, on State highway in Boston, and about 5,223 feet of sidewalks and miscellaneous work on the Dedham-Boston Cut-Off on State highway in Dedham, the surface consisting of bituminous concrete. The proposal amounted to \$29,299.20. Work completed Aug. 31, 1936. Expenditure during 1936, \$31,459.06.

Framingham

April 21, 1936, contract made with Littlefield-Wyman Nurseries, of Abington, for furnishing and planting trees, shrubs and vines at the grade separation at the junction of the Worcester Turnpike and Pleasant Street. The proposal amounted to \$1,648 35. Work completed May 23, 1936. Expenditure during 1936, \$1,608.35.

Quincy-Weymouth

May 26, 1936, contract made with Coleman Bros. Corporation, of Boston, for constructing a traffic circle and approaches at the new Fore River Bridge in Quincy and Weymouth, the surface consisting of penolithic pavement. The proposal amounted to \$74,720.65. Work completed Nov. 6, 1936. Expenditure during 1936, \$66,221.27.

Wayland

June 23, 1936, contract made with Evans Products Company, of Detroit, Michigan, for constructing an electrically controlled warning and highway barrier to be operated by approaching trains, at the intersection of the Boston and Maine Railroad, Eastern Massachusetts Division, and the Boston Post Road, U. S. Route 20. The proposal amounted to \$10,500. Work completed Sept. 30, 1936. Expenditure during 1936, \$9,760.

Quincy-Weymouth

June 30, 1936, contract made with Bay State Dredging & Contracting Co., of Boston, for removing the temporary bridge south of and parallel to the new Fore River Bridge in Quincy and Weymouth. The proposal amounted to \$17,500. Work completed Sept. 10, 1936. Expenditure during 1936, \$15,822.54.

Pittsfield

July 7, 1936, contract made with The Lane Construction Corporation, of Meriden Connecticut, for reconstructing about 10,233 feet of State highway on Dalton Avenue, the surface consisting of bituminous macadam. The proposal amounted to \$239,799.20. Work about two-fifths completed. Expenditure during 1936, \$94,367.88.

Millbury

July 14, 1936, contract made with Frank C. Dolan & Sons, of Boston, for cleaning and painting on Auto Route 20, a grade separation bridge over Millbury Street, the Blackstone River Bridge, and the New York, New Haven and Hartford Railroad Bridge. The proposal amounted to \$1,495. Work completed Nov. 10, 1936. Expenditure during 1936, \$977.50.

Lynnfield-Peabody

July 21, 1936, contract made with Ellsworth H. Lewis, of Andover, for constructing a steel stringer and concrete beam bridge of three spans on the Newburyport Turnpike over the Circumferential Highway in Lynnfield, the construction of about 2,103 feet of State highway on the old location of the Wakefield Branch of the Boston and Maine Railroad and on new location in Lynnfield, and about 18,757 feet of State highway on the old railroad location and on new location in Peabody; the surface, except over the bridge in Lynnfield and the bridge over Lowell Street in Peabody, consisting of Warrenite Bitulithic Pavement, and the surface over the said bridges consisting of bituminous concrete. The proposal amounted to \$843,701.60. Work about one-third completed. Expenditure during 1936, \$264,815.07.

Peabody

July 21, 1936, contract made with Richard White Sons, Inc., of Newton, for constructing a steel stringer and concrete beam bridge of two spans on the Northern Circumferential Highway over Lowell Street. The proposal amounted to \$51,419.70. Work about four-fifths completed. Expenditure during 1936, \$43,667.11.

Pittsfield

July 28, 1936, contract made with The Lane Construction Corporation, of Meriden, Connecticut, for constructing about 1,125 feet of State highway on West Housatonic Street, the surface consisting of reinforced concrete. The proposal amounted to \$26,055.30. Work completed Nov. 28, 1936. Expenditure during 1936, \$23,226.99.

Tyngsborough

Aug. 11, 1936, contract made with Maurice M. Devine, Inc., of Boston, for cleaning and painting the Tyngsborough Bridge, on Auto Route 113. The proposal amounted to \$7,400. Work completed Nov. 13, 1936. Expenditure during 1936, \$6,290.

Wayland

Aug. 18, 1936, contract made with Eagle Signal Corporation, of Arlington, for furnishing and installing traffic control signals on State highway in Wayland. The proposal amounted to \$487. Work completed Sept. 25, 1936. Expenditure during 1936, \$487.

Eastham-Orleans

Aug. 25, 1936, contract made with Michael F. Roach & Sons, Inc., of Bridgewater, for reconstructing about 1,893 feet of State highway on County Road in Orleans, and about 14,900 feet of State highway on said County Road in Eastham, the surface consisting of bituminous concrete. The proposal amounted to \$230,847.25. Work just commenced. Expenditure during 1936, \$4,805.87.

Bourne

Sept. 8, 1936, contract made with Arute Bros., Incorporated, of Bridgewater, for constructing about 6,927 feet of State highway from the southerly end of the traffic circle south of the Bourne Bridge and over new location, the surface consisting of penolithic pavement. The proposal amounted to \$87,944.95. Work about one-sixth completed. Expenditure during 1936, \$15,676.55.

Erving-Gill-Buckland-Charlemont

Sept. 22, 1936, contract made with Maurice M. Devine, Inc., of Boston, for cleaning and painting French King Bridge, on Auto Route 2, in Erving and Gill, over the Connecticut River and, cleaning and painting Scott's Bridge, on Auto Route 2, in Buckland and Charlemont, over the Deerfield River. The proposal amounted to \$15,000. Work just commenced. Expenditure during 1936, \$4,462.50.

Saugus

Oct. 8, 1936, contract made with B. Perini & Sons, Inc., of Framingham, for constructing on the Newburyport Turnpike a steel stringer bridge of two spans with a concrete deck, under Essex Street, a steel stringer bridge of two spans with a concrete deck, under Main Street, a concrete slab extension of a concrete beam bridge over Saugus River, and a steel stringer bridge of two spans with a concrete deck and concrete beam approach span, under Walnut Street. The proposal amounted to \$167,093.45. Work about one-eighth completed. Expenditure during 1936, \$19,217.73.

Malden-Revere-Saugus

Oct. 8, 1936, contract made with C. J. Maney Co. Inc., of Boston, for constructing a steel stringer and concrete bridge of four spans over the Saugus branch of the Boston and Maine Railroad in Revere, a steel stringer bridge with concrete deck over Lynn Street in Malden and Revere, and about 14,553 feet of State highway on Squire Road at Broadway in Revere and on new location in Revere, Malden and Saugus; the surface, except for the aforementioned bridges consisting of penolithic pavement, and the surface over said bridges consisting of bituminous concrete. The proposal amounted to \$825,178.15. Work just commenced. Expenditure during 1936, \$30,107.38.

Lynnfield-Saugus

Oct. 8, 1936, contract made with B. Perini & Sons, Inc., of Framingham, for reconstructing about 18,362 feet of State highway on the Newburyport Turnpike

in Saugus, and about 6,350 feet of State highway on the same road in Lynnfield, the surface consisting of Warrenite Bitulithic Pavement. The proposal amounted to \$1,349,895.25. Work just commenced. Expenditure during 1936, \$35,242.13.

Millbury-Sutton

Oct. 8, 1936, contract made with New Haven Road Construction Company, Incorporated, of Worcester, for constructing about 5,394 feet of State highway on new location in Millbury, and about 6,795 feet of State highway on new location in Sutton, the surface consisting of bituminous macadam. The proposal amounted to \$485,438.60. Work just commenced. Expenditure during 1936, \$33,589.11.

Holyoke-Easthampton

Oct. 8, 1936, contract made with Daniel O'Connell's Sons, Inc., of Holyoke, for reconstructing about 21,832 feet of State highway on Northampton Road in Holyoke, and about 238 feet of State highway on the same road in Easthampton, the surface consisting of bituminous concrete. The proposal amounted to \$484,008.13. Work just commenced. Expenditure during 1936, \$9,860.76.

Millbury

Oct. 27, 1936, contract made with Eagle Signal Corporation, of Arlington, for furnishing and installing traffic control signals on State highway along the Worcester-Providence Pike. The proposal amounted to \$1,077. Work practically completed. No expenditure during 1936.

EXPENDITURES FOR THE CONSTRUCTION OF STATE HIGHWAYS

The expenditures for the construction of State highways in various counties during the year were:—

Barnstable	\$52,077.07	Hampshire	\$40,390.53
Berkshire	54,385.32	Middlesex	238,432.67
Bristol	7,584.07	Norfolk	544,822.74
Essex	149,176.55	Plymouth	12,006.39
Franklin	217,696.22	Suffolk	1,151,555.37
Hampden	22,670.49	Worcester	213,381.98
Total			\$2,704,179.40

Details of the foregoing expenditures follow:—

Barnstable County.—\$42,786.43; Dennis, \$689; Eastham, \$3,916.52; Falmouth, \$79.60; Orleans, \$3,916.52; Yarmouth, \$689.

Berkshire County.—Lenox, \$964.68; North Adams, \$28.71; Otis, \$22,996.23; Pittsfield, \$29,150.06; Sheffield, \$1,000.86; Williamstown, \$244.78.

Bristol County.—Dartmouth, \$203.44; North Attleborough, \$7,380.63.

Essex County.—Amesbury, \$85.54; Andover, \$64,696.75; Lynn, \$1,376.59; Newbury, \$4,003.08; Newburyport, \$67,062.68; Saugus, \$11,951.91.

Franklin County.—Montague, \$207,521.79; Orange, \$10,174.43.

Hampden County.—Blandford, \$203.87; Holyoke, \$22,463.50; Southwick, \$3.12.

Hampshire County.—Hadley, \$17,526.18; Huntington, \$5,338.18; Northampton, \$17,526.17.

Middlesex County.—Arlington, \$15,081.13; Belmont, \$2,155.33; Billerica, \$10,792.49; Cambridge, \$3,468.; Chelmsford, \$18,376.41; Concord, \$4,929.43; Framingham, \$65,517.69; Malden, \$17,927.85; Natick, \$77,430.15; Newton, \$9,850.21; Tyngsborough, \$21.34; Wayland, \$12,882.64.

Norfolk County.—Brookline, \$141,503.50; Cohasset, \$1,922.80; Dedham, \$87,689.66; Foxborough, \$24.80; Milton, \$174,713.13; Norwood, \$724.78; Quincy, \$59,336.59; Wellesley, \$18,882.82; Westwood, \$688.07; Weymouth, \$59,336.59.

Plymouth County.—Duxbury, \$24.96; Hingham, \$1,872.37; Middleborough, \$104.86; Scituate, \$3,570.90; Wareham, \$6,433.30.

Suffolk County.—Boston, \$880,815.23; Revere, \$270,740.14.

Worcester County.—Athol, \$28,958.01; Millbury, \$173,183.36; Shewsbury, \$249.65; Worcester, \$10,990.96.

HIGHWAY IMPROVEMENTS AUTHORIZED BY SPECIAL ACTS

In accordance with the provisions of Chapter 406 of the Acts of 1930, the following contract was entered into:—

Fairhaven-New Bedford

Jan. 7, 1936, contract made with Rendle Contracting & Dock Building Company, of Boston, for constructing two fender piers and three dolphins of the New Bedford-Fairhaven Bridge. The proposal amounted to \$15,903. Work completed Aug. 8, 1936. Expenditure during 1936, \$25,847.88.

In accordance with the provisions of Chapter 365 of the Acts of 1933, the following contracts were entered into:—

Billerica-Chelmsford

April 1, 1936 contract made with Randall and Dingley Construction Co., of Sherborn, for constructing sidewalks on Chelmsford Road in Billerica, and on Billerica Road in Chelmsford, the surface consisting of bituminous concrete. The proposal amounted to \$16,658. 50. Work completed July 23, 1936. Expenditure during 1936, \$16,313.96.

Andover

May 5, 1936, contract made with John McCourt Company, of Boston, for constructing about 24,876 feet of sidewalks and miscellaneous work on Lowell Street, the surface of the sidewalks consisting of bituminous concrete. The proposal amounted to \$28,518.75. Work completed July 17, 1936. Expenditure during 1936, \$22,658.47.

In accordance with the provisions of Chapter 375 of the Acts of 1934, as modified by Chapter 487 of the Acts of 1935, the following contract was entered into:—

Revere

April 21, 1936, contract made with M. F. Gaddis, Inc., of Boston, for constructing about 4,232 feet of city highway on Ocean Avenue, the surface consisting of bituminous concrete. The proposal amounted to \$128,659.75. Work completed Oct. 19, 1936. Expenditure during 1936, \$114,459.98.

In accordance with the provisions of Chapter 464 of the Acts of 1935, the following contracts were entered into:—

Lawrence

April 28, 1936, contract made with The Lathrop and Shea Company, of Connecticut for reconstructing about 404.03 feet of highway on Andover Street, and reconstructing a bridge carrying the B. & M. R.R. over Andover Street, the surface of the bridge consisting of bituminous concrete, and the surface of the highway consisting of granite block pavement. The proposal amounted to \$63,623.12. Work completed Nov. 18, 1936. Expenditure during 1936, \$73,421.92.

Amherst

May 12, 1936, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing about 1100 feet of highway on College Street, and constructing a through steel plate girder bridge carrying the Central Vermont Railway over College Street, the surface consisting of bituminous macadam. The proposal amounted to \$58,759.45. Work completed Nov. 30, 1936. Expenditure during 1936, \$47,667.18.

West Bridgewater

Aug. 12, 1936, contract made with Mario Pandolf Company, Inc., of Needham, for reconstructing about 7,738 feet of highway on West Center Street, the surface consisting of bituminous concrete. The proposal amounted to \$76,272.81. Work about six-sevenths completed. Expenditure during 1936, \$67,021.61.

Holyoke

Aug. 18, 1936, contract made with Daniel O'Connell's Sons, Inc., of Holyoke, for constructing about 6,645 feet of highway on Springfield Street, the surface consisting of bituminous concrete. The proposal amounted to \$144,667.53. Work about four-sevenths completed. Expenditure during 1936, \$86,219.42.

Clinton

Oct. 6, 1936, contract made with Antonio Pandiscio, of Fitchburg, for constructing a deck plate girder bridge of two spans over Nashua River connecting Boylston Street and Chester Street, known as Lancaster Mills Bridge, and approaches thereto the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$76,752.10. Work just commenced. Expenditure during 1936, \$1,948.92.

Pembroke-Marshfield

Oct. 8, 1936, contract made with A. G. Tomasello & Son, Inc., of Boston, for reconstructing about 25,450 feet of highway on Schooset, Water and Church Streets in Pembroke, and on Plain Street, new location and Ocean Street in Marshfield, the surface consisting of bituminous concrete, and the construction of a concrete slab bridge on Plain and Ocean Streets over South River, in Marshfield, the construction of a concrete slab bridge on Plain and Ocean Streets over Waste Water Stream, in Marshfield, and the construction of a concrete slab bridge on Schooset Street over Robinson Creek, in Pembroke. The proposal amounted to \$281,112.08. Work about one-ninth completed. Expenditure during 1936, \$33,213.90.

Attleboro-North Attleborough-Plainville

Oct. 8, 1926, contract made with M. DeMatteo, of Boston, for reconstructing about 1,714 feet of highway on North Main Street in Attleboro, 14,785 feet of highway on New Boston Road in North Attleborough, and 7,835 feet of highway on Taunton Street in Plainville, the surface consisting of bituminous concrete. The proposal amounted to \$227,092.66. Work just commenced. Expenditure during 1936, \$10,115.

In accordance with the provisions of Item 393 of Chapter 249 of the Acts of 1935, the following contract was entered into:—

Amherst

July 29, 1936, contract made with G. Bonazzoli & Sons, of Hudson, for constructing about 1,523 feet of highway on Olmstead Road and Flint Laboratory Drive, the surface consisting of bituminous macadam. The proposal amounted to \$8,993.14. Work completed Sept. 19, 1936. Expenditure during 1936, \$10,144.14.

In accordance with the provisions of Item 370 of Chapter 249 of the Acts of 1935, and Item 374A of Chapter 432 of the Acts of 1936, the following contract was entered into:—

Fitchburg

Nov. 24, 1936, contract made with Angelo R. Montuori, of Fitchburg, for constructing about 256 feet of driveway at the State Teachers College, the surface consisting of bituminous macadam. The proposal amounted to \$3,181.05. Work not yet commenced.

In accordance with the provisions of Chapter 433 of the Acts of 1936, the following contract was entered into:—

Deerfield-Sunderland

Oct. 6, 1936, contract made with C. J. Maney Co. Inc., of Boston, for constructing a deck steel truss bridge of 6 spans over the Connecticut River, the surface consisting of bituminous concrete. The proposal amounted to \$641,659.80. Work just commenced. Expenditure during 1936, \$3,187.50.

In accordance with the provisions of Chapter 174 of the Acts of 1936, the following contracts were entered into:—

Greenfield-Montague

Mar. 31, 1936, contract made with T. Stuart & Son Company, of Watertown, for constructing a temporary steel stringer bridge of six spans the surface consisting of wood deck, over the Connecticut River, between Turners Falls and Greenfield, at site of the present White suspension bridge, on old auto route 2. The proposal amounted to \$112,000. Work completed July 22, 1936. Expenditure during 1936, \$130,042.17.

Deerfield-Sunderland

Mar. 31, 1936, contract made with C. J. Maney Co. Inc., of Boston, for constructing a temporary steel trestle bridge with wooden floor over the Connecticut River between Deerfield and Sunderland at the site of the recently destroyed Sunderland bridge, on auto route 116. The proposal amounted to \$124,850. Work completed June 29, 1936. Expenditure during 1936, \$148,750.

South Hadley-Holyoke

April 14, 1936, contract made with The Boston Bridge Works, Incorporated, of Cambridge, for repairing the South Hadley-Holyoke Bridge across the Connecticut River. The proposal amounted to \$100,000. Work completed Sept. 22, 1936. Expenditure during 1936, \$203,621.10

Northampton-Hadley

April 14, 1936, contract made with The Boston Bridge Works, Incorporated, of Cambridge, for repairing the Northampton-Hadley bridge across the Connecticut River. The proposal amounted to \$25,000. Work completed May 29, 1936. Expenditure during 1936, \$21,081.56.

TRAFFIC CONTROL SIGNALS

The following contracts were entered into during the year for furnishing and installing traffic control signals in various municipalities:—

Dedham-Bourne

Dec. 31, 1935, contract made with George A. Marshall, of Somerville, for furnishing and installing traffic signals on State Highway in Dedham and Bourne. The proposal amounted to \$1,614. Work completed Mar. 5, 1936. Expenditure during 1936, \$1,614.

Quincy-Weymouth

Mar. 3, 1936, contract made with Edwin C. Lewis, Incorporated, of Boston, for furnishing and installing lighting equipment for the Fore River Bridge and approaches in Quincy and Weymouth. The proposal amounted to \$12,639.98. Work completed Nov. 7, 1936. Expenditure during 1936, \$12,667.55.

Wayland

Aug. 18, 1936, contract made with Eagle Signal Corporation, of Arlington, for furnishing and installing traffic control signals on State Highway in Wayland. The proposal amounted to \$487. Work completed Sept. 25, 1936. Expenditure during 1936, \$487.

Millbury

Oct. 27, 1936, contract made with Eagle Signal Corporation, of Arlington, for furnishing and installing traffic control signals on State Highway along the Worcester-Providence Turnpike. The proposal amounted to \$1,077. Work practically completed. No expenditure during 1936.

ABOLITION OF GRADE CROSSINGS

(Section 70, Chapter 159 of the General Laws, as amended by Section 1, Chapter 357 of the Acts of 1934)

The following contracts were entered into for the abolition of grade crossings:—

Sheffield

May 5, 1936, contract made with B. A. Gardetto, Inc., of Boston, for constructing a steel stringer bridge and approaches on Ashley Falls Road, the surface of the approaches consisting of bituminous macadam. The proposal amounted to \$106,843.20. Work practically completed. Expenditure during 1936, \$93,795.90.

Braintree

May 19, 1936, contract made with Charles Capone, of Braintree, for constructing

about 519 feet of road on new location, the surface consisting of bituminous macadam. The proposal amounted to \$8,448.95. Work completed July 22, 1936. Expenditure during 1936, \$8,620.51.

Ayer

May 26, 1936, contract made with Coleman Bros. Corporation, of Boston, for constructing a steel bridge and approaches thereto on West Main Street and new location, the surface of the approaches consisting of bituminous macadam. The proposal amounted to \$101,845.25. Work about four-fifths completed. Expenditure during 1936, \$82,851.53.

Lunenburg

June 30, 1936, contract made with Carlo Bianchi and Company, Inc., of Framingham, for constructing a steel stringer bridge with reinforced concrete beam approach spans and approaches thereto on Leominster Road; the surface of the approaches consisting of a penolithic type of pavement. The proposal amounted to \$63,909.75. Work about two-thirds completed. Expenditure during 1936, \$42,761.58.

Foxborough-Mansfield

June 30, 1936, contract made with John Deveney Company, of Boston, for constructing about 4,900 feet of highway on Summer Street in Foxborough and about 1,600 feet of highway on Oakland Street in Mansfield; the surface consisting of gravel and tar mixed in place. The proposal amounted to \$19,398.90. Work completed Nov. 23, 1936. Expenditure during 1936, \$16,365.90.

Sharon

July 7, 1936, contract made with Arute Bros., Incorporated, of Bridgewater, for constructing a steel stringer bridge with reinforced concrete deck and approach spans and approaches thereto on Depot Street and Upland Road, the surface of the approaches consisting of a penolithic type of pavement. The proposal amounted to \$127,093.65. Work about five-sixths completed. Expenditure during 1936, \$107,595.60.

Mansfield

July 29, 1936, contract made with Coleman Bros. Corporation, of Boston, for constructing a single span through plate girder bridge and approaches thereto on School Street, the surface, except over the bridge, consisting of gravel and tar mixed in place, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$78,994.20. Work about four-sevenths completed. Expenditure during 1936, \$46,950.41.

Canton-Norwood-Westwood

Aug. 11, 1936, contract made with Martino DeMatteo, of Boston, for constructing steel stringer bridge of three spans with concrete deck over the tracks of the New York, New Haven and Hartford Railroad on Dedham Street in Canton, a creosoted timber pile trestle of seven spans with a concrete deck over the Neponset River, and the approaches thereto, on Canton Street in Norwood and Westwood and Dedham Street in Canton, the surface of the approaches consisting of bituminous macadam. The proposal amounted to \$91,836. Work about one-third completed. Expenditure during 1936, \$37,411.90.

Hopkinton-Westborough

Sept. 8, 1936, contract made with Middlesex Construction Company of Framingham, for constructing a steel stringer and concrete beam bridge of four spans at Rocklawn Crossing over the Boston and Albany Railroad and the Sudbury River in Hopkinton and Westborough, and the approaches thereto, the surface, except over the bridge, consisting of a penolithic type of pavement, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$78,524.10. Work just commenced. Expenditure during 1936, \$5,663.55.

Mansfield

Sept. 8, 1936, contract made with Arute Bros., Incorporated, of Bridgewater, for constructing a steel stringer bridge of three spans with a concrete deck on the Elm Street Cut-off over the New York, New Haven and Hartford Railroad and the approaches thereto, the surface, except over the bridge, consisting of gravel and tar mixed in place, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$79,574.35. Work about two-sevenths completed. Expenditure during 1936, \$29,262.65.

Ashburnham

Sept. 8, 1936, contract made with G. Rosse & Son, Inc., of Leominster, for constructing a steel stringer bridge with concrete approach spans and the approaches thereto on Winchendon Road, the surface on the approaches to the bridge consisting of bituminous macadam, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$103,876.40. Work just commenced. Expenditure during 1936, \$2,394.87.

Monson

Sept. 8, 1936, contract made with B. A. Gardetto, Inc., of Boston, for constructing a steel plate girder bridge with a concrete floor over the tracks of the Central Vermont Railway and over Chicopee Brook on Palmer Road, and the approaches thereto, the surface of the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$104,570.50. Work about one-fifth completed. Expenditure during 1936, \$23,432.17.

Foxborough

Oct. 6, 1936, contract made with Coleman Bros. Corporation, of Boston, for constructing a through plate girder bridge with wrought iron plate deck and the approaches thereto on Cocasset Street, the surface of the approaches consisting of gravel and tar mixed in place. The proposal amounted to \$87,620.05. Work just commenced. Expenditure during 1936, \$2,643.07.

Sharon

Oct. 8, 1936, contract made with B. F. Construction Co., Inc., of New Bedford, for constructing a plate girder bridge over the tracks of the New York, New Haven and Hartford Railroad on South Main Street, and the approaches thereto, the surface of the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$53,031.21. Work just commenced. Expenditure during 1936, \$2,983.50.

Worcester

Oct. 8, 1936, contract made with B. Perini & Sons, Inc., of Framingham, for constructing a steel plate girder bridge with concrete deck over the tracks of the Boston & Maine Railroad on Wildey Avenue, a steel stringer bridge with concrete deck over Neponset Street, and the approaches thereto, the surface of the approaches consisting of a penolithic type of pavement, and the surface on the bridges consisting of bituminous concrete. The proposal amounted to \$325,390.30. Work just commenced. Expenditure during 1936, \$15,511.22.

Grafton-Shrewsbury

Oct. 21, 1936, contract made with Carlo Bianchi and Company, Inc., of Framingham for constructing a steel stringer and concrete beam bridge of three spans over the Boston and Albany Railroad on Shrewsbury Street in Grafton, and approaches thereto on new location in Shrewsbury and Shrewsbury Street in Grafton, the surface of the approaches consisting of bituminous macadam, the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$107,259.60. Work just commenced. Expenditure during 1936, \$556.75.

Section 80, Chapter 159 of the General laws, and acts in amendment thereof and in addition thereto, including particularly Section 11 of Chapter 417 of the Acts of 1930.

Quincy

Jan. 14, 1936, contract made with Coleman Bros. Corporation, of Boston, for constructing a concrete box bridge over Town Brook, constructing the substructure and superstructure for a new overhead bridge and the approaches thereto on Water Street, the surface of the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$238,820.60. Work practically completed. Expenditure during 1936, \$248,849.32.

EXPENDITURES FOR EMERGENCY PUBLIC WORKS CONSTRUCTION Chapter 365, Acts of 1933

(An act enabling the Commonwealth to secure certain benefits provided by the National Industrial Recovery Act.)

Project	City or Town	Amount
R 1	Lynn-Revere	\$59,435 03
R 5-1	Arlington-Belmont-Lexington	77,618 97
R 5-2	Lexington-Lincoln	16,994 19
R 7	Braintree-Quincy	27,546 47
R 22	Blandford-Russell	14,838 26
R 26	Charlemont	45,688 72
R 29-2	Concord By-pass	36,205 87
R 48	Holyoke	37,996 70
R 49	Charleton-East Brookfield	10,716 69
R 51	Randolph-Braintree	634 82
R 54	Yarmouth-Dennis	16,818 17
TOTAL		\$344,493 89

BOND ISSUE PROJECTS Chapter 464, Acts of 1935

An Act providing a public works program for the purpose of alleviating existing conditions resulting from unemployment.

Class 1 Projects--Highway Projects Carried Out by Cities and Towns

The disbursements during the year in various counties were:—

Barnstable	\$5,061.54	Middlesex	\$86,531.53
Berkshire	1,976.08	Plymouth	24,753.02
Bristol	37,216.19	Suffolk	9,845.7
Dukes	346.68	Worcester	8,624.92
Essex	17,611.38	Engineering	28,242.17
Franklin	2,600.00		
Total			\$222,809.25

Details of the foregoing disbursements follow:—

Barnstable County.—Falmouth, \$5,061.54.

Berkshire County.—Williamstown, \$1,976.08.

Bristol County.—Attleboro, \$6,829.61; Fall River, \$30,386.58.

Dukes County.—Gay Head, \$34.66; Gosnold, \$312.02.

Essex County.—Nahant, \$1,456.06. Salem, \$15,236.62; Wenham, \$918.70.

Franklin County.—Sunderland, \$1,700.; Monroe, \$900.

Middlesex County.—Chelmsford, \$1,924.09; Concord, \$2,617.44; Malden, \$18,894.11; Marlborough, \$4,454.85; Melrose, \$9,707.06; Somerville, \$31,495.94; Waltham, \$14,768.60; Wayland, \$1,508.06; Wilmington, \$1,161.38.

Plymouth County.—Brockton, \$20,592.85; Hull, \$4,160.17.

Suffolk County.—Revere, \$9,845.74.

Worcester County.—Clinton, \$3,137.46; Northborough, \$2,350. Southbridge, \$3,137.46.

Class 2 Projects—Construction of Sidewalks

The expenditures during the year in various counties were:—

Barnstable	\$1,033.88	Hampshire	\$39,167.33
Berkshire	190,362.45	Middlesex	904,767.13
Bristol	441,873.18	Norfolk	491,543.06
Dukes	79.26	Plymouth	387,184.90
Essex	439,256.15	Suffolk	93,647.10
Franklin	35,172.83	Worcester	414,416.15
Hampden	120,799.32		
		Total	\$3,559,302.74

Details of the foregoing expenditures follow:—

Barnstable County.—Eastham, \$440.56; Orleans, \$593.32;

Berkshire County.—Adams, \$2,122.54; Becket, \$9,224.56; Cheshire, \$7,140.59; Clarksburg, \$4,518.75; Dalton, \$24,404.09; Egremont, \$102.06; Gt. Barrington, \$7,157.86; Hancock, \$13.13; Hinsdale, \$13,569.92; Lanesborough, \$211.52; Lee, \$25,215.37; Lenox, \$4,668.13; North Adams, \$18,292.89; Otis, \$112.47; Pittsfield, \$48,436.29; Sandisfield, \$13.11; Sheffield, \$2,354.18; Stockbridge, \$7,138.65; West Stockbridge, \$44.38; Williamstown, \$15,621.96.

Bristol County.—Acushnet, \$8,507.69; Attleboro, \$25,537.55; Dartmouth, \$69,109.24; Dighton, \$27,111.41; Easton, \$11,641.64; Fairhaven, \$67,238.04; Mansfield, \$2,047.98; Norton, \$7,345.02; North Attleborough, \$14,959.60; Raynham, \$46,839.18; Somerset, \$38,360.87; Swansea, \$21,224.64; Taunton, \$75,103.12; Westport, \$26,847.20.

Dukes County.—Oak Bluffs, \$79.26.

Essex County.—Amesbury, \$12,922.06; Andover, \$11,962.21; Beverly, \$62,822.33; Danvers, \$5,653.15; Essex, \$8,315.42; Gloucester, \$65,688.05; Groveland, \$18,077.91; Hamilton, \$6,339.75; Haverhill, \$15,401.66; Ipswich, \$6,074.42; Lawrence, \$14,866.81; Lynn, \$54,822.24; Lynnfield, \$13.49; Merrimac, \$21,922.06; Methuen, \$10,459.33; Middleton, \$1,999.94; Newbury, \$3,623.68; Newburyport, \$3,186.86; North Andover, \$3,150.93; Peabody, \$101.58; Rowley, \$6,581.96; Salem, \$40,300.40; Salisbury, \$11,799.38; Saugus, \$17,937.31; Swampscott, \$2,693.82; Wenham, \$27,839.36; West Newbury, \$4,699.94.

Franklin County.—Erving, \$5,468.31; Greenfield, \$22,169.21; Orange, \$7,535.31.

Hampden County.—Agawam, \$13,575.47; Blandford, \$4,726.; Brimfield, \$2,148.37; Chester, \$4,055.11; Chicopee, \$15,056.07; East Longmeadow, \$18,372.31; Palmer, \$27,804.24; Russell, \$2,742.74; Westfield, \$12,885.32; West Springfield, \$15,901.14; Wilbraham, \$3,532.55.

Hampshire County.—Amherst, \$9,290.75; Cummington, \$158.57; Easthampton, \$3,894.81; Hadley, \$127.41; Hatfield, \$70.43; Huntington, \$8,238.03; Northampton, \$4,608.26; South Hadley, \$9,296.46; Ware, \$3,455.68; Worthington, \$26.93.

Middlesex County.—Acton, \$4,590.63; Arlington, \$35,722.98; Ashby, \$5,571.91; Ashland, \$1,819.56; Ayer, \$278.45; Bedford, \$4,182.58; Belmont, \$11,752.12; Billerica, \$22,162.31; Boxborough, \$487.05; Burlington, \$7,873.86; Cambridge, \$3,765.34; Chelmsford, \$48,540.40; Concord, \$14,057.70; Dracut, \$81.23; Framingham, \$112,216.98; Groton, \$157.63; Holliston, \$9,720.03; Hudson, \$5,904.39; Lexington, \$40,502.86; Lincoln, \$157.46; Littleton, \$17,866.70; Lowell, \$46,039.80; Marlborough, \$25,191.89; Medford, \$509.08; Melrose, \$10,725.98; Natick, \$39,649.05; Newton, \$37,258.85; North Reading, \$23,075.23; Pepperell, \$140.01; Reading, \$63,598.19; Shirley, \$294.36; Somerville, \$50,074.49; Stoneham, \$27,230.09; Sudbury, \$6,309.15; Tewksbury, \$7,819.46; Townsend, \$8,127.62; Tyngsborough, \$5,776.28; Waltham, \$23,153.86; Watertown, \$16,687.83; Wayland, \$9,396.76; Westford, \$599.96; Weston, \$11,609.94; Wilmington, \$4,532.75; Winchester, \$27,621.48; Woburn, \$111,932.85.

Norfolk County.—Avon, \$21,292.42; Bellingham, \$25,370.45; Braintree, \$22,589.62; Brookline, \$7,028.21; Canton, \$33,469.34; Dedham, \$72,094.36; Milton, \$29,645.33; Needham, \$33,149.59; Norwood, \$42,320.36; Quincy, \$18,069.82; Randolph, \$44,491.45; Stoughton, \$21,937.75; Walpole, \$2,151.82; Wellesley, \$41,663.07; Weymouth, \$76,269.47.

Plymouth County.—Abington, \$74,901.05; Bridgewater, \$16,922.91; Brockton,

\$100,379.18; East Bridgewater, \$31,708.91; Hingham, \$5,334.68; Hull, \$12,414.74; Kingston, \$17,879.62; Middleborough, \$9,418.07; Norwell, \$19,074.93; Plymouth, \$1,374.64; Rockland, \$17,452.44; Wareham, \$30,829.25; West Bridgewater, \$23,195.61; Whitman, \$26,298.87.

Suffolk County.—Boston, \$29,930.45; Chelsea, \$24,408.18; Revere, \$39,308.47.

Worcester County.—Athol, \$7,321.30; Auburn, \$12,475.85; Barre, \$1,815.88; Blackstone, \$20,568.56; Brookfield, \$15,663.35; Dudley, \$14,027.24; East Brookfield, \$22,688.17; Fitchburg, \$10,415.01; Gardner, \$23,362.63; Grafton, \$3,230.57; Hardwick, \$12,587.48; Harvard, \$45.38; Holden, \$27,840.40; Leicester, \$15,206.24; Leominster, \$6,853.79; Lunenburg, \$86.11; Milford, \$13,064.18; Millbury, \$4,338.05; Northborough, \$5,028.13; Northbridge, \$4,380.34; Oxford, \$815.70; Paxton, \$5,587.78; Phillipston, \$233.84; Rutland, \$7.04; Shrewsbury, \$22,982.78; Southborough, \$24,274.34; Southbridge, \$11,224.28; Spencer, \$32.46; Sterling, \$4,367.57; Sturbridge, \$12,636.53; Sutton, \$10.07; Templeton, \$14,153.64; Uxbridge, \$5,330.67; Webster, \$12,721.67; West Boylston, \$15,594.92; West Brookfield, \$14,424.46; Westminster, \$360.94; Winchendon, \$5,207.56; Worcester, \$43,451.24.

Class 3 Projects—Highway Projects under the Hayden-Cartwright Bill, so called

The expenditures during the year 1936 were as follows:—

Bourne (Barnstable Co.)	\$276,800.86
Lynnfield-Saugus (Essex Co.)	40,951.29
Saugus (Essex Co.)	19,841.99
Millbury-Sutton (Worcester Co.)	35,123.70
Pittsfield (Berkshire Co.)	96,142.73
	<hr/>
	\$468,860.57

Class 4 Projects—Grade-crossing Eliminations, Highway Projects, Maintenance of State Highways

The expenditures during the year in various counties were:—

Barnstable	\$6,697.34	Hampshire	65,208.66
Berkshire	100,916.79	Middlesex	304,920.05
Bristol	91,915.15	Norfolk	555,134.96
Essex	716,093.94	Plymouth	104,329.42
Franklin	94,861.87	Suffolk	65.26
Hampden	140,391.43	Worcester	84,129.56
			<hr/>
		Sub Total	\$2,264,664.43
		Maintenance	324,322.76
			<hr/>
		Total	\$2,588,987.19

Barnstable County.—Bourne, \$6,697.34.

Berkshire County.—Pittsfield, \$168.40; Sheffield, \$100,748.39.

Bristol County.—Attleboro, \$1,000.; Mansfield, \$88,915.15; North Attleborough, \$2,000.

Essex County.—Danvers, \$1,147.50; Lawrence, \$62,520.19; Lynn, \$53,253.41; Lynnfield-Peabody, \$275,140.29; Lynnfield, \$22,495.84; Lynnfield-Saugus, \$30,706.52; Newbury-Newburyport, \$224,140.93; Newbury, \$300.; Peabody, \$46,389.26.

Franklin County.—Deerfield-Sunderland, \$26,569.68; Greenfield, \$65,063.92; Montague-Gill, \$3,228.27.

Hampden County.—Holyoke, \$111,735.16; Monson, \$28,656.27.

Hampshire County.—Amherst, \$54,098.62; Huuntington, \$8,698.68; South Hadley, \$2,411.36.

Middlesex County.—Ayer, \$87,837.86; Cambridge, \$448.82; Hopkinton, \$3,000. Waltham, \$213,633.37.

Norfolk County.—Braintree, \$9,956.57; Canton-Norwood-Westwood, \$38,817.10;

Foxborough, \$11,588.69; Plainville, \$7,758.90; Quincy, \$273,018.34; Sharon, \$115,278.71; Weymouth, \$98,716.65.

Plymouth County.—Pembroke-Marshfield, \$34,816.52; West Bridgewater, \$69,512.90.

Suffolk County.—Revere, \$65.26.

Worcester County.—Ashburnham, \$3,396.39; Clinton, \$2,308.81; Gardner, \$6,101.59; Gardner-Shewsbury, \$6,023.12; Lunenburg, \$46,487.52; Millbury-Sutton, \$59.45; Westborough, \$3,154.41; Worcester, \$16,598.27.

CLASS 4 PROJECTS (Continued)

Snow Removal:

New equipment	\$17,880 00
Truck repairs	1,838 85
Truck operation	1,411 14
Truck plow repairs	3,251 34
Tractor repairs	1,839 45
Tractor operation	1,412 09
Tractor plow repairs	3,251 92
Snow fence	593 85
Expenditures under towns	93,115 11

\$124,593 75

Traffic:

Direction signs	\$3,358 97
Warning signs	2,527 40
Control signals	4,847 66
Traffic survey	606 77
Traffic permits	22 12
Surface markings	1,001 02
Regulatory signs	353 04
W.P.A.	2,921 80
Art project	187 93
Tercentenary signs	12 50
Sign survey	36 54

\$15,875 75

Roadside Planting	1,371 93
Paint	1,475 29
Engineering	77,640 61
Machinery	48,095 03
Laboratory	1,239 75
Geodetic survey	212 36
Somerset Bridge	301 36
Newburyport Bridge	190 11
New Bedford-Fairhaven Bridge	866 43
Quincy-Weymouth Bridge	170 21

\$272,032 58

CHAPTER 464—BOND ISSUE

Class 5—Development of Rivers and Harbors

The expenditures during the year 1936 were as follows:

Boston Harbor:

Commonwealth Pier No. 5	\$541,749 72
Town River, Quincy	8,000 00
Dredging	176,160 67
Weymouth Fore River	47,070 53

\$772,980 92

Outside Boston Harbor:

Menamsha Creek-Chilmark	\$29,288 21
Scituate Harbor	12,439 00
Manchester Harbor	17,614 08

Smiths Cove, Gloucester	22,968 03	
Plymouth Harbor	14,611 76	
Onset Bay, Wareham	63,268 56	
Lake Anthony, Oak Bluffs	12,700 00	
Hither Creek, Nantucket	10,926 05	
		183,815 69
Total		\$956,796 61

RECONSTRUCTION AND REPAIR OF STATE HIGHWAYS DAMAGED BY FLOODS

Chapter 186, Acts of 1936 provides as follows:—

SECTION 1. The sum herein set forth, for the purposes herein specified, is hereby appropriated from the Highway Fund, subject to the provisions of law regulating the disbursement of public funds and the approval thereof:

Item	
642a. For the reconstruction and repair of state highways damaged by floods, to be expended under the direction of the department of public works, a sum not exceeding two million dollars	\$2,000,000 00

SECTION 2. This act shall take effect upon its passage.

The worst flood conditions experienced in this State for many years occurred during the two periods from March 11, 1936, to March 15, 1936, and from March 19, 1936, to March 22, 1936. Deep snow and a thick coverage of ice on all inland waters were quickly melted by the heavy warm rains and by the abnormally high temperatures which occurred during these periods. The streams and rivers rose rapidly and overflowed their banks, causing extraordinary damage.

During these periods the maintenance personnel was on duty nearly twenty-four hours a day, patrolling the highways and bridges, making repairs and keeping the public informed of road conditions in order that food and other necessary supplies could be transported to provide for the unfortunate victims whose homes were located in the flooded areas. Twenty-four hour information service on road conditions was given to the public at the Maintenance Office, 100 Nashua Street, Boston.

Even before the flood waters had completely receded, estimates were being prepared of the cost to repair the damage which had been done to roadways and bridges.

Deposits of silt, often several feet deep, had to be removed from the roadways before traffic could proceed. In some cases, this material was pushed to the side of the road by the use of snow plows and then loaded onto trucks and hauled away. In some instances steam shovels were used to clear the roadways.

Large cakes of ice, in some cases several feet thick, were deposited on sections of the highways in the western and Connecticut Valley regions, as the flood waters receded. These were removed by steam shovels, cranes and snow plows.

Huge slides of snow and earth blocked many sections of the highways and this material was removed as quickly as possible.

Temporary repairs were made quickly and it was only a few days before all roads were open to travel, but in a few cases the travel was limited to one-way traffic where culverts and small bridges had been washed away and temporary bridges were quickly erected. Places where shoulders had been washed out and all other dangerous places were barricaded and well lighted so that the public was protected at all times.

Although the roads were opened to travel, it was evident that the flood had caused heavy damage to the roadways and bridges and it would be necessary to expend a great deal of money to make permanent repairs. In many cases it seemed advisable to construct larger culverts, additional culverts and drainage systems, raise the present grade of the road, harden shoulders, etc., in order that future flood damage and the resulting hindrance to traffic might be reduced to a great extent.

In order that the work of making these permanent repairs might be started as quickly as possible, the Legislature appropriated the sum of \$2,000,000 by Special Act, Chapter 186, Acts of 1936, on March 27, 1936. Of this amount \$153,000 was to be used for the repair of bridges which are not on State highways.

In order that flood repairs could be made as quickly as possible and funds made available by the Works Progress Administration could be utilized to supplement the State funds, Project Proposals were prepared and submitted to the Works Progress Administration on April 21, 1936.

Most of the projects submitted were approved and the construction work was started as soon as labor and materials could be secured and was continued until it was completed.

This work included the placing of rip-rap along the banks of rivers and streams, replacement of culverts and guard rail, installation of drainage, hardening of shoulders, surface repairs, grading and cutting back slopes and the removal of silt and debris from the roadsides.

EXPENDITURES FOR RECONSTRUCTION AND REPAIR OF STATE HIGHWAYS DAMAGED BY FLOODS

(Chapter 186, Acts of 1936)

The expenditures during the year in various Counties were:—

Barnstable	\$121.10	Middlesex	\$384,710.31
Berkshire	99,365.94	Norfolk	199,917.12
Bristol	73,369.91	Plymouth	9,761.26
Essex	229,554.44	Suffolk	19,071.93
Franklin	87,449.63	Worcester	194,549.31
Hampden	78,984.17	W.P.A. Projects	275,980.28
Hampshire	108,108.00		
		Total	\$1,760,943.40

Details of the foregoing expenditures follow:—

Barnstable County.—Chatham, \$44.16; Eastham, \$12.91; Falmouth, \$1.93; Harwich, \$41.40; Orleans, \$20.70.

Berkshire County.—Adams, \$4,186.99; Becket, \$3,948.53; Cheshire, \$3,961.11; Clarksburg, \$641.70; Dalton, \$42.58; Egremont, \$7,982.91; Florida, \$774.63; Gt. Barrington, \$1,888.14; Hancock, \$7,231.90; Hinsdale, \$4,117.65; Lanesborough, \$2,637.85; Lee, \$1,448.81; Lenox, \$1,615.16; North Adams, \$5,875.34; Otis, \$477.76; Pittsfield, \$559.58; Richmond, \$25.46; Sandisfield, \$1,641.18; Savoy, \$16,503.54; Sheffield, \$24,100.11; Stockbridge, \$7,027.54; West Stockbridge, \$25.46; Williamstown, \$2,186.99; Windsor, \$465.02.

Bristol County.—Attleboro, \$3.15; Dighton, \$4,880.95; Norton, \$2,331.36; North Attleboro, \$348.83; Seekonk, \$1,021.43; Somerset, \$35,447.70; Taunton, \$29,336.49.

Essex County.—Amesbury, \$3,925.01; Andover, \$509.83; Beverly, \$84.19; Danvers, \$133.13; Haverhill, \$37,587.94; Ipswich, \$62.09; Lawrence, \$362.61; Lynn, \$6.90; Lynnfield, \$9.44; Merrimac, \$85.96; Methuen, \$24,764.15; Middleton, \$36,770.19; Newbury, \$34.27; Newburyport, \$4,313.41; North Andover, \$101,853.81; Peabody, \$3.81; Rowley, \$15.50; Salem, \$1.72; Salisbury, \$18,421.89; Saugus, \$7.17; Topsfield, \$1.04; West Newbury, \$600.38.

Franklin County.—Ashfield, \$8,332.31; Bernardston, \$1,071.15; Buckland, \$3,863.28; Charlemont, \$4,417.81; Colrain, \$1,700.81; Conway, \$2,491.37; Deerfield, \$5,319.25; Erving, \$5,980.83; Gill, \$1,514.89; Greenfield, \$3,671.25; Montague, \$435.31; New Salem, \$4,191.19; Northfield, \$11,670.68; Orange, \$1,808.72; Shelburne, \$2,089.36; Shutesbury, \$22,227.87; Sunderland, \$5,817.98; Whately, \$845.57.

Hampden County.—Agawam, \$31,582.30; Blandford, \$149.77; Brimfield, \$1,927.46; Chester, \$2,605.67; Chicopee, \$5,836.75; East Longmeadow, \$93.; Holyoke, \$5,008.23; Monson, \$617.98; Palmer, \$2,889.08; Russell, \$4,406.25; Southwick, \$1,114.80; Wales, \$397.41; West Springfield, \$2,387.06; Westfield, \$17,096.77; Wilbraham, \$2,871.64.

Hampshire County.—Amherst, \$462.78; Belchertown, \$9,178.69; Cummington, \$11,120.22; Easthampton, \$542.93; Goshen, \$9,954.65; Granby, \$11,953.16; Hadley, \$27,312.86; Hatfield, \$547.73; Huntington, \$7,349.98; Northampton, \$14,933.77; Pelham, \$658.53; South Hadley, \$5,574.12; Southampton, \$266.81; Ware, \$2,501.03; Williamsburg, \$5,293.32; Worthington, \$457.42.

Middlesex County.—Acton, \$3,808.65; Ashby, \$15,111.41; Ashland, \$6,937.29; Ayer, \$118.37; Bedford, \$17,988.33; Billerica, \$26,249.98; Boxborough, \$84.45; Cambridge, \$224.91; Chelmsford, \$92,463.87; Concord, \$1,303.40; Dracut, \$69,330.69; Dunstable, \$110.38; Framingham, \$5,665.82; Groton, \$9,231.45; Holliston, \$11,292.73; Lexington, \$27,999.69; Lincoln, \$84.17; Littleton, \$643.19; Lowell, \$8,917.24; Malden, \$256.41; Marlborough, \$132.46; Natick, \$95.48; Newton, \$32.29; North Reading, \$287.97; Pepperell, \$1,204.33; Reading, \$271.; Sherborn, \$5.52; Shirley, \$4,496.55; Stoneham, \$33.42; Sudbury, \$502.26; Tewksbury, \$16,128.67; Townsend, \$3,590.87; Tyngsborough, \$16,706.43; Waltham, \$16.56; Watertown, \$16.56; Wayland, \$5,524.49; Westford, \$32,844.65; Weston, \$186.; Wilmington, \$786.60; Winchester, \$11.04; Woburn, \$4,014.73.

Norfolk County.—Avon, \$348.; Bellingham, \$645.66; Braintree, \$28,142.71; Canton, \$6,742.86; Dedham, \$4,995.34; Foxborough, \$8,379.75; Holbrook, \$21.45; Milton, \$28,891.49; Norfolk, \$226.30; Plainville, \$303.57; Quincy, \$6,838.05; Randolph, \$9,200.36; Stoughton, \$3,724.88; Walpole, \$103.21; Wellesley, \$5.52; Westwood, \$41,585.67; Weymouth, \$12,097.86; Wrentham, \$47,664.44.

Plymouth County.—Brockton, \$3,472.59; Mattapoisett, \$12.53; Pembroke, \$6.95; Rockland, \$6,269.19.

Suffolk County.—Boston, \$18,097.52; Chelsea, \$164.55; Revere, \$809.86.

Worcester County.—Ashburnham, \$959.82; Athol, \$860.08; Auburn, \$4,787.17; Barre, \$3,573.66; Berlin, \$222.99; Blackstone, \$344.96; Brookfield, \$174.69; Charlton, \$2,098.30; Dana, \$211.28; Douglas, \$398.78; Dudley, \$886.41; East Brookfield, \$364.71; Fitchburg, \$2,610.79; Gardner, \$3,033.37; Grafton, \$288.39; Hardwick, \$749.05; Harvard, \$3,039.50; Holden, \$48,217.97; Hopedale, \$10,453.15; Lancaster, \$21.39; Leicester, \$22,625.88; Leominster, \$299.94; Lunenburg, \$2,797.84; Mendon, \$244.80; Milford, \$940.08; Millbury, \$4,512.66; Millville, \$149.02; North Brookfield, \$134.54; Northborough, \$1,472.16; Northbridge, \$1,763.54; Oakham, \$111.77; Oxford, \$6,291.94; Paxton, \$5,357.94; Petersham, \$5,053.17; Phillipston, \$330.14; Princeton, \$12,629.50; Rutland, \$3,190.19; Shrewsbury, \$2,683.52; Southborough, \$1,086.42; Southbridge, \$610.86; Spencer, \$113.30; Sterling, \$2,046.22; Sturbridge, \$1,461.79; Sutton, \$11,198.75; Templeton, \$3,416.65; Upton, \$2,718.31; Uxbridge, \$871.61; Warren, \$1,834.70; Webster, \$177.17; West Boylston, \$821.04; West Brookfield, \$329.72; Westborough, \$1,388.19; Westminster, \$3,634.42; Winchendon, \$6,091.16; Worcester, \$2,863.91.

W.P.A. Projects.—HF 9-12—Huntington, \$5,769.67; HF 10 Berkshire County, \$6,743.67; HF 10-1 Adams-Cheshire, \$6,246.51; HF 10-10 Hancock, \$1,410.56; HF 10-32 Windsor, \$41.40; HF 13-B Russell-Tolland, \$220.04; HF 13-4 Chester, \$561.78; HF 8 Franklin County, \$23,421.89; HF 9 Hampshire County, \$8,573.78; HF BA Hampden County, \$22,990.66; HF 13-5 Chicopee, \$4,065.55; HF 12 Worcester County, \$58,890.22; HF 12-16 Fitchburg, \$377.07; HF 6-8 Palmer, \$528.37; HF 4 Middlesex County, \$70,987.85; HF 4-22 Lowell, \$7,648.73; HF 7 Essex County, \$48,666.; HF 7-8 Haverhill, \$5,956.21; HF 7-8B Haverhill-North Andover, \$1,336.41; HF 7-17 Newburyport, \$1,136.77; HF 7-18 North Andover, \$407.14.

MAINTENANCE AND REPAIR OF STATE HIGHWAYS

(Section 13, Chapter 81, General Laws)

The expenditures during the year in various counties were:—

Barnstable	\$101,741.86	Hampshire	\$63,505.46
Berkshire	244,902.93	Middlesex	775,938.28
Bristol	\$443,705.36	Nantucket	543.63
Dukes	8,955.95	Norfolk	786,355.05
Essex	515,163.00	Plymouth	141,642.79
Franklin,	70,542.31	Suffolk	165,436.68
Hampden	107,216.05	Worcester	534,123.83

Total \$3,959,773.18

Details of the foregoing expenditures follow:—

Barnstable County.—Barnstable, \$15,994.42; Bourne, \$44,183.51; Brewster,

\$2,408.15; Chatham, \$2,267.56; Dennis, \$3,978.38; Eastham, \$1,740.24; Falmouth, \$7,389.45; Harwich, \$1,373.96; Mashpee, \$1,896.50; Orleans, \$2,349.26; Provincetown, \$2,386.06; Sandwich, \$5,355.17; Truro, \$5,226.79; Wellfleet, \$2,480.06; Yarmouth, \$2,712.35.

Berkshire County.—Adams, \$1,186.78; Becket, \$20,451.29; Cheshire, \$42,475.35; Clarksburg, \$4,746.78; Dalton, \$4,445.67; Egremont, \$6,705.28; Florida, \$25,619.61; Great Barrington, \$11,385.31; Hancock, \$2,785.10; Hinsdale, \$1,931.41; Lanesborough, \$8,742.99; Lee, \$9,262.46; Lenox, \$6,012.93; New Ashford, \$4,405.54; New Marlborough, \$487.12; North Adams, \$10,261.88; Otis, \$5,885.84; Peru, \$141.49; Pittsfield, \$6,528.72; Richmond, \$5,183.94; Sandisfield, \$9,049.72; Savoy, \$4,100.36; Sheffield, \$9,304.75; Stockbridge, \$3,347.35; Washington, \$1,634.46; West Stockbridge, \$482.18; Williamstown, \$32,112.62; Windsor, \$6,226.

Bristol County.—Acushnet, \$4,584.89; Attleborough, \$2,875.40; Berkley, \$1,060.31; Dartmouth, \$5,498.63; Dighton, \$69,648.36; Easton, \$7,306.40; Fairhaven, \$18,664.32; Fall River, \$395.58; Freetown, \$27,951.39; Mansfield, \$973.97; New Bedford, \$60.51; Norton, \$12,546.86; North Attleborough, \$3,827.03; Raynham, \$5,548.80; Rehoboth, \$25,473.62; Seekonk, \$10,204.29; Somerset, \$166,642.70; Swansea, \$20,171.76; Taunton, \$27,003.41; Westport, \$33,267.13.

Dukes County.—Chilmark, \$2,428.30; Edgartown, \$991.05; Gay Head, \$1,253.99; Oak Bluffs, \$357.96; Tisbury, \$1,119.91; West Tisbury, \$2,804.74.

Essex County.—Amesbury, \$11,118.54; Andover, \$32,002.13; Beverly, \$8,727.83; Boxford, \$19.85; Danvers, \$41,473.46; Essex, \$1,631.62; Gloucester, \$12,488.93; Groveland, \$5,019.36; Hamilton, \$29,730.57; Haverhill, \$13,104.62; Ipswich, \$44,447.49; Lawrence, \$7,261.48; Lynn, \$6,382.03; Lynnfield, \$4,860.59; Manchester, \$12.11; Marblehead, \$11.73; Merrimac, \$5,939.11; Methuen, \$48,006.12; Middleton, \$75,561.68; Newbury, \$12,792.06; Newburyport, \$11,471.; North Andover, \$42,008.15; Peabody, \$14,593.04; Rockport, \$735.42; Rowley, \$5,987.02; Salem, \$6,112.83; Salisbury, \$20,281.21; Saugus, \$19,132.71; Swampscott, \$3,176.30; Topsfield, \$7,893.49; Wenham, \$1,651.02; West Newbury, \$21,529.50.

Franklin County.—Ashfield, \$1,861.14; Bernardston, \$2,820.85; Buckland, \$2,251.16; Charlemont, \$12,932.54; Colrain, \$1,988.25; Conway, \$2,362.83; Deerfield, \$4,539.69; Erving, \$4,743.21; Gill, \$1,327.40; Greenfield, \$7,806.59; Leyden, \$8.80; Montague, \$3,660.01; New Salem, \$1,173.04; Northfield, \$4,563.20; Orange, \$1,200.49; Shelburne, \$6,833.71; Shutesbury, \$3,197.16; Sunderland, \$5,012.80; Whately, \$2,259.44.

Hampden County.—Agawam, \$5,573.86; Blandford, \$19,228.33; Brimfield, \$5,212.92; Chester, \$9,460.57; Chicopee, \$1,606.87; East Longmeadow, \$1,536.19; Granville, \$5.87; Holland, \$35.21; Holyoke, \$797.61; Monson, \$2,222.; Palmer, \$6,917.31; Russell, \$9,167.35; Southwick, \$28,739.17; Tolland, \$143.45; Wales, \$1,715.18; West Springfield, \$3,299.15; Westfield, \$5,158.07; Wilbraham, \$6,396.94.

Hampshire County.—Amherst, \$3,634.59; Belchertown, \$4,976.12; Cummington, \$5,713.75; Easthampton, \$2,014.90; Goshen, \$3,217.95; Granby, \$3,569.15; Hadley, \$2,347.36; Hatfield, \$2,287.53; Huntington, \$8,422.68; Northampton, \$4,620.51; Pelham, \$603.36; Plainfield, \$13.35; Southampton, \$3,348.78; South Hadley, \$9,526.85; Ware, \$4,425.12; Williamsburg, \$2,085.54; Worthington, \$2,697.92.

Middlesex County.—Acton, \$24,928; Arlington, \$4,339.47; Ashby, \$9,801.36; Ashland, \$30,150.75; Ayer, \$2,710.11; Bedford, \$1,978.19; Belmont, \$2,698.15; Billerica, \$19,367.69; Boxborough, \$2,280.26; Burlington, \$7,106.46; Cambridge, \$1,343.47; Chelmsford, \$40,445.96; Concord, \$13,073.67; Draught, \$84,007.61; Framingham, \$39,635.42; Groton, \$14,412.23; Holliston, \$7,826.14; Hudson, \$916.01; Lexington, \$51,193.01; Lincoln, \$22,375.61; Littleton, \$19,954.67; Lowell, \$31,437.91; Malden, \$252.32; Marlborough, \$12,601.18; Maynard, \$216.96; Medford, \$1,856.98; Melrose, \$906.15; Natick, \$14,924.38; Newton, \$12,335.92; North Reading, \$1,370.95; Pepperell, \$5,881.46; Reading, \$8,319.06; Shirley, \$10,594.34; Somerville, \$2,290.09; Stoneham, \$8,393.90; Sudbury, \$11,476.26; Tewksbury, \$94,401.06; Townsend, \$8,780.25; Tyngsborough, \$6,688.60; Wakefield, \$7.33; Waltham, \$1,879.79; Watertown, \$3,875.81; Wayland, \$16,045.16; Westford, \$16,154.60; Weston, \$38,351.11; Wilmington, \$22,832.40; Winchester, \$3,034.13; Woburn, \$40,485.94.

Nantucket County.—Nantucket, \$543.63.

Norfolk County.—Avon, \$1,228.16; Bellingham, \$1,474.51; Braintree, \$72,334.85; Brookline, \$8,132.50; Canton, \$199,553.05; Cohasset, \$1,327.87; Dedham, \$24,402.66; Dover, \$511.54; Foxborough, \$4,008.92; Franklin, \$673.88; Holbrook, \$10,206.38; Milton, \$73,788.60; Needham, \$38,586.52; Norfolk, \$236.71; Norwood, \$24,766.01; Plainville, \$1,961.21; Quincy, \$48,157.09; Randolph, \$40,468.91; Sharon, \$29,375.69; Stoughton, \$4,428.81; Walpole, \$118,531.08; Wellesley, \$20,135.81; Westwood, \$32,982.29; Weymouth, \$15,626.26; Wrentham, \$13,455.74.

Plymouth County.—Abington, \$18,270.58; Bridgewater, \$2,422.39; Brockton, \$3,544.99; Duxbury, \$3,975.49; East Bridgewater, \$2,029.40; Hanover, \$3,116.59; Hingham, \$9,271.93; Hull, \$3,156.38; Kingston, \$2,394.33; Lakeville, \$8,425.85; Marion, \$1,939.61; Marshfield, \$1,596.93; Mattapoisett, \$4,669.37; Middleborough, \$9,448.25; Norwell, \$1,157.87; Pembroke, \$2,297.19; Plymouth, \$5,006.13; Plympton, \$22.14; Rochester, \$3,935.65; Rockland, \$2,501.66; Scituate, \$3,781.42; Wareham, \$8,563.21; West Bridgewater, \$36,686.41; Whitman, \$3,429.02.

Suffolk County.—Boston, \$51,540.56; Chelsea, \$536.34; Revere, \$113,359.78.

Worcester County.—Ashburnham, \$1,436.41; Athol, \$2,283.44; Auburn, \$9,453.56; Barre, \$5,707.27; Blackstone, \$2,444.20; Boylston, \$4.40; Brookfield, \$1,234.13; Charlton, \$8,049.52; Clinton, \$358.82; Douglas, \$3,800.62; Dudley, \$1,662.79; East Brookfield, \$1,133.14; Fitchburg, \$4,197.83; Gardner, \$1,365.49; Grafton, \$5,289.73; Hardwick, \$1,581.44; Harvard, \$27,516.94; Holden, \$17,439.99; Hopedale, \$2,548.71; Lancaster, \$2,356.82; Leicester, \$13,761.61; Leominster, \$2,646.40; Lunenburg, \$7,066.76; Mendon, \$1,040.07; Milford, \$1,949.79; Millbury, \$181,137.99; Millville, \$1,195.81; New Braintree, \$277.49; North Brookfield, \$451.12; Northborough, \$8,075.37; Northbridge, \$5,958.; Oakham, \$1,622.48; Oxford, \$415.974; Paxton, \$3,863.43; Petersham, \$4,777.32; Phillipston, \$866.64; Princeton, \$7,111.43; Royalston, \$8.80; Rutland, \$14,680.36; Shrewsbury, \$28,563.25; Southborough, \$10,647.09; Southbridge, \$607.48; Spencer, \$1,412.02; Sterling, \$18,450.88; Sturbridge, \$7,712.86; Sutton, \$5,125.41; Templeton, \$8,682.11; Upton, \$4,092.74; Uxbridge, \$39,155.59; Warren, \$3,464.80; Webster, \$1,366.23; West Boylston, \$4,413.19; West Brookfield, \$1,022.25; Westborough, \$14,052.95; Westminster, \$5,546.30; Winchendon, \$1,831.21; Worcester, \$16,705.61.

Expenditures for maintenance of highways are as follows:

	<i>Snow Removal</i>	
Truck repairs	\$21,682	75
Truck operation	15,150	44
Truck plow repairs	39,579	85
Tractor repairs	21,046	40
Tractor operation	15,123	11
Tractor plow repairs	34,799	48
Snow fence	3,245	18
New equipment	18,034	43
Expenditures under towns	754,621	47
		<hr/>
		\$923,283 11
	<i>Traffic</i>	
Direction signs	\$53,078	16
Warning signs	49,851	58
Control signals	47,029	66
Traffic survey	99,594	80
Traffic permits	633	39
Curb markings	576	43
Regulatory signs	27,570	41
W.P.A. Traffic census	8,091	78
Surface markings	22,487	14
Art project	2,216	67
Tercentenary signs	179	46
Sign survey	54,932	95
		<hr/>
		\$366,242 43

Bridges

Somerset Bridge	\$9,007 06	
Newburyport Bridge	4,498 06	
Fairhaven-New Bedford Bridge	42,569 96	
Quincy-Weymouth Bridge	13,487 40	
		<hr/>
Geodetic Survey		\$69,562 48
Detour bulletins		4,928 52
Inspection of bituminous concrete pavement (Technical services)		1,277 02
Tractor repairs		1,843 12
Safety advertising		11,097 72
		<hr/>
Total Miscellaneous expenditures		\$1,390,234 40

Summary of Maintenance Expenditures

Maintenance and repair of State highways	\$3,959,773 18
Miscellaneous Expenditures	1,390,234 40
	<hr/>
Total	\$5,350,007 58

ORDINARY AND SPECIAL MAINTENANCE

The usual work of repairing road surfaces, maintaining shoulders and slopes, cleaning of drainage ditches and conduits, and miscellaneous work on the right-of-way which includes repairing fences, trimming trees, clearing roadsides, and general improvement of the appearance of State highways was performed under the ordinary maintenance allotment. The cost of this work compares favorably with that of other years.

The betterment work performed by our maintenance forces was wide in scope and will tend to reduce maintenance costs in years to come.

The major part of this work consisted of widening and resurfacing sections of the highways which were becoming rough and were not wide enough to accommodate the fast and heavy traffic. The total length widened was 21.8 miles and the length widened and resurfaced was 17.0 miles. A total of 5.7 miles were reconstructed during the past year by maintenance forces from funds available under the maintenance appropriation.

Shoulders were hardened in several sections, totalling 9.9 miles, in order to increase the safety to the travelling public and also to protect the edges of the hardened surfaces.

The ties from several abandoned street railway tracks were removed and the area graded and gravelled in order to improve the safety and appearance of the roadways. The total length of this work was 3.7 miles.

Drainage systems were corrected and improved, new guard rail was installed, shoulders were gravelled, bridges were repaired, curbings were set, slopes were cut back and general landscaping work performed.

The work done included the following: Gravel shoulders, 3.4 miles; guard rail, 2.1 miles; drainage, 1.4 miles; and set curbing, 0.6 miles.

REMOVAL OF SNOW AND ICE FROM STATE HIGHWAYS AND CERTAIN TOWN ROADS

The authority of the Department relative to the removal of snow and ice from State highways has been provided by section 19, chapter 81, General Laws, as amended.

The cooperation of the Department with officers of cities, towns and counties in keeping open and reasonably passable for vehicles during the winter months such highways as may be selected by the Department is provided for in section 11, chapter 84, General Laws, as amended.

In accordance with the provisions of these laws, the Department selected 1,947 miles of highways on the principal routes of travel, 1,751 miles of which are State highways and 196 miles town highways.

The work of snow removal on these routes is performed in a large part by the trucks and tractors owned and operated by the Department, but certain towns and

cities, by agreement with the Department, perform part of the work of snow removal on the portions of the routes within their limits. All of this work is done under the direction and supervision of the Department.

The expenditures by the Department for snow removal during the year under the provisions of both the above-mentioned laws, amounted to a total of \$1,047,876.86, which includes the cost of maintenance and repair of the equipment, actual cost of plowing and purchase of materials, such as calcium chloride and sand for use on icy conditions of the road surfaces, also the purchase of such equipment as is used entirely for snow removal work.

REPAIRING DEPARTMENT EQUIPMENT

The following contracts were entered into during the year for repairing Department equipment:—

Boston.—Aug. 18, 1936, contract made with Walsh Body & Equipment Co., of Cambridge, for repairing Department four wheel drive snow removal trucks and plows. The proposal amounted to \$92,026. Work about one-third completed. Expenditure during 1936, \$36,888.03.

Boston.—Aug. 18, 1936, contract made with William Hurley, of Cambridge, for repairing Department tractors. The proposal amounted to \$17,380. Work about two-thirds completed. Expenditure during 1936, \$11,815.52.

Boston.—Sept. 8, 1936, contract made with Walsh Body & Equipment Co., of Cambridge, for repairing Department snow plows and road machinery. The proposal amounted to \$12,555. Work almost completed. Expenditure during 1936, \$12,158.18.

BRIDGE MAINTENANCE AND OPERATION

Drawbridge over the Merrimack River between Newburyport and Salisbury

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1936, was 168. In 1935 the number of such openings was 178; in 1934 the number was 110; in 1933 the number was 153; and in 1932 the number was 220.

The total expenditure during the year was \$4,498.06.

The total expenditure from 1912 to Nov. 30, 1936, inclusive, was \$204,222.21.

Drawbridge over Taunton River between Fall River and Somerset

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and for operating the draw and maintaining the structure, shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1936, was 1,591. In 1935 the number of such openings was 1,492; in 1934 the number was 2,118; in 1933 the number was 1,602; and in 1932 the number was 1,662.

The total expenditure during the year was \$9,007.06.

The total expenditure from 1912 to Nov. 30, 1933, inclusive, was \$420,652.07.

Drawbridge over Acushnet River Between City of New Bedford and the Town of Fairhaven

This bridge which was placed in charge of the Department of Public Works and made a State highway by the provisions of Chapter 406, Acts of 1930, which also provided that the expense of keeping the bridge in good repair for travel, operating the draw and of maintaining the structure, shall be paid by the Commonwealth, was taken over by the Department on June 27, 1930.

The number of draw openings while in charge of the Department beginning June 27, 1930, and ending Nov. 30, 1932, was 1,069. In 1933 the number of such

openings was 1,867; in 1934 the number was 1,434; in 1935 the number was 1,318; and in 1936 the number was 1,381.

The total expenditure during the year was \$42,569.96.

The total expenditure while in charge of the Department has been \$139,430.29.

*Drawbridge over Weymouth Fore River
Between the City of Quincy and the Town of Weymouth*

The jurisdiction of the Department of Public Works over this bridge is provided for by Chapter 348, Acts of 1933. The construction of the new bridge at this location tion required the construction of a temporary bridge to accommodate the vehicular traffic which normally passed over the old bridge.

The number of draw openings at this temporary bridge from December 1, 1935, to May 23, 1936, was 1,467.

The new drawbridge was put in service May 23, 1936. From May 23, 1936 to November 30, 1936 the number of openings of the new drawbridge was 302..

The total expenditure for the maintenance and operation of both the temporary and new bridges was \$13,487.40.

MAINTENANCE OF OTHER BRIDGES ON STATE HIGHWAYS

During the past year the following work was completed or contracted for under the supervision of the Maintenance Division:—

Buckland—Scott's Bridge over the Deerfield River. Cleaning and painting of the steel superstructure.

Erving-Gill—French King Bridge over the Connecticut River. Cleaning and painting of the steel.

Huntington—Pitcher Bridge over the Westfield River. Cleaning and painting of the steel.

Millbury—Millbury St., Blackstone River and N.Y., N.H., & H. Bridges. Cleaning and painting of the steel.

New Bedford—Replacement of the rest pier fenders and repairs to the center fender pier.

Tyngsborough—Tyngsborough Bridge over the Merrimack River. Cleaning and painting of the steel superstructure.

ROADSIDE MAINTENANCE AND DEVELOPMENT

Roadside maintenance, such as the care and planting of trees and other growth on the areas within the state highway layouts, has been a duty of this Department for forty years. The work has developed rapidly in recent years due to the growing belief that it is of value economically, in that it prevents soil erosion, besides improving the general appearance of the highways.

Specially trained men under competent supervision are employed to do this work, which not only includes the removal and trimming of trees, brush, and other undesirable growth, but also the selection and planting of new trees, shrubs and vines suitable for the various locations where such planting is desired. Trimming at curves and intersections along the highway insures safe operating conditions for motor vehicles, and the clearing of unnecessary growth and special trimming at particular points, affords attractive vistas at scenic locations.

A nursery is maintained at Sudbury where a large proportion of the trees and shrubs are grown for use on State highways under the control of the Department.

During the past year a large amount of roadside planting has been done on W.P.A. Beautification projects sponsored and supervised by the Department. There have been as many as 138 separate projects in operation at one time, with a total of more than four thousand (4,000) employees. In carrying out this work, more than 125,000 trees and shrubs have been planted, 350,000 square yards of ground along the highways has been loamed and seeded, and about 20 acres of sod has been placed on slopes which were left bare and unsightly after construction of the highway. There was also a large amount of trimming and pruning done to improve the general appearance of the natural growth along the roadside.

Under the W. P. A. the Department also made extensive repairs to a large slope on Route 20 in Palmer. A most objectionable condition existed there in that, after

the spring thaws, material from the hill slipped onto the roadway, sometimes to a depth of two feet making it necessary to use a tractor plow to clear the road for traffic.

In addition to W. P. A. work which was supervised by the Department, a planting project, financed by Federal Aid funds, was carried out in Framingham.

Beginning July 1, a sum of approximately \$34,000 was made available by the Federal Government under the Hayden-Cartwright Act and approximately \$37,000 under the Works Program Highway Fund, both to be used for Roadside Improvement projects.

In addition to the work carried on under the W. P. A. and the contract work with Federal appropriations, a large number of men have been employed for a period of about four months, replacing dead and damaged trees, cutting undesirable growth, mowing grass, trimming trees and shrubs, and doing other work necessary in connection with the maintenance of the roadside planting which has been done in previous years.

During the year, 247 trees and 678 shrubs were planted along the roadsides of State Highways by the Department, and 2291 trees and 3572 shrubs were donated by the Department to be planted on State sponsored W. P. A. Roadside Improvement Projects.

RELIEF OF COMMUNITIES OF STRICKEN FLOOD AREAS

Chapter 144, Acts of 1936 provided as follows:—

SECTION 1. To provide for the payment of military and other emergency expenses in safeguarding the lives and preserving the health and safety of the inhabitants in the areas of the commonwealth damaged by floods, the sum of seven hundred and fifty thousand dollars is hereby appropriated from the Highway Fund, subject to the provisions of law regulating the disbursement of such funds and the approval thereof. All activities hereunder shall be carried on under the direction of a board consisting of the adjutant general, the commissioner of public health, the commissioner of public welfare and the commissioner of public safety.

SECTION 2. The facilities and services of all department and agencies of the commonwealth shall be made available to the said board to such extent as he may require, and all expenses incurred on the call of the said board by said departments and agencies shall be paid from the appropriation made by section one. In carrying out the provisions of this act, the said board shall co-operate with all federal agencies and with all local and civic organizations engaged in relief work in the flooded area in such manner as he deems best. All activities under this act shall be so co-ordinated by the said board as to avoid duplication of work and needless expenditure of money and to expedite relief in the flooded area. (*Approved March 21, 1936.*)

Under Chapter 144, Acts of 1936, a board consisting of the Adjutant General, Commissioner of Public Health, Commissioner of Public Welfare and the Commissioner of Public Safety was authorized to use the facilities and services of all departments and agencies of the Commonwealth to relieve the communities in the stricken flood areas. The Department of Public Works was directed to send tractors to this area and plow under the silt in order to preserve the health in these communities from disease ridden dust and conserve the soil for agricultural purposes.

Seventeen tractors, operators, mechanics and timekeepers were employed in this work and a total of \$42,826.90, which included the overhauling of the tractors used on this work, was expended.

SIDEWALKS ALONG STATE HIGHWAYS

State Bond Issue and Federal W.P.A. Allotments

With funds from the Bond Issue, Chapter 464, Acts of 1935, Section 2, and an allotment from the Works Progress Administration, the Department of Public Works, during the fiscal year 1936, supervised the construction of approximately 500 miles of sidewalks, providing useful employment for thousands of men. Although the primary purpose of this Program was to provide a walk for pedestrians off the travelled way, in an effort to decrease the mounting pedestrian accident rate, many improvements have been made in the State Highway system.

More than 250 miles of curbing have been placed on these projects to serve as a

permanent addition to the highway by controlling surface water and thus preventing erosion. Curbing also serves as a guide to motorists.

Widenings to provide for sidewalks have involved the handling of over a million yards of material, done mostly by hand labor. These widenings will be of benefit also for the maintenance of the highways, particularly in providing additional width for snow removal. Also in connection with the work sight shelves have been made and outcrops of ledge have been removed to increase sight distances.

The installation of sidewalks has increased the valuation of abutting property and opened up new developments, as in some cases new homes are being built adjacent to our projects. School children are now afforded a safe place to walk along high speed roads where previously no place existed for pedestrians except on the road surface. Motorists will also receive benefit from this type of construction as the full width of hardened surface is available to automobile traffic.

The towns in a number of instances have taken advantage of this type of construction to insure a longer serviceability by treating the gravel surface with a bituminous treatment, thus tending to make a semi-permanent type of wearing surface, and it is common knowledge that practically all of the communities are taking steps to treat these roads in some manner so as to safeguard them for the future.

The towns have expressed their appreciation to the Works Progress Administration and the Commonwealth for the cooperation given them. The Commonwealth as sponsor is pleased with the manner in which the towns assisted and it is needless to say that without the splendid cooperation of the Works Progress Administration the remarkable progress could never have been attained.

FARM TO MARKET PROJECTS

The Department early in the fall of 1935 submitted proposals to the Works Progress Administration of Massachusetts for the improvement of the so-called "Farm to Market" roads.

These proposals required contributions from the W.P.A., the Community and the State. The W.P.A. contribution, in the main, consisted of supplying labor and a portion of the equipment and material. The Community contribution consisted in supplying part of the equipment, also a large part of the material and where possible a competent foreman or supervisor, the Commonwealth supplying the engineering, actual supervision, and other miscellaneous expenses, such as office rent and state-owned cars.

Approval of such proposals was received from Washington, involving an allotment of \$20,000,000 from the W.P.A., a contribution from the Communities of approximately \$884,600, and approximately \$110,000 from the Commonwealth.

These proposals contemplated work on about 2000 miles of roads. To date there has been actually completed 718 miles. Work on 443 miles is in various stages of completion ranging from 20% to 80%.

Of utmost importance was the thought that certain outlying settlements had no road for vehicular communication, which not only was a trade handicap but also a real danger in case of fire, and the transportation of school children was at times almost impossible, due to the condition of the roads at certain periods of the year.

There has been expended over the past twelve months by the combined agencies, approximately \$4,350,000. Of this amount 67.5% was paid direct to labor, the remaining 32.5% covered equipment and material.

There has been an average of 5500 men employed for an earning period of ten months.

The character of the work done is so diversified that it is not possible in a few words to give a comprehensive picture of the actual value.

A great many roads were impractical for travel, as in the spring they were full of mud-holes and were hardly passable a greater part of the year. Sufficient drainage was installed, proper depth of excavation was attained and finally a fill varying in depth of good clean gravel was made.

Narrow winding roads were improved by easing curves and noticeable widening was accomplished in many places.

Similarly roads with poor visibility were improved.

WIDENING AND RESURFACING PROJECTS

On Aug. 30, 1936, Project Proposals totalling \$10,512,870.63 for the widening and resurfacing State highways were submitted to the Works Progress Administration. This work was submitted on a basis of 100% Federal Contribution and the only State expenditures involved were for engineering and supervision.

These projects were approved but work was delayed in starting due to the fact that insufficient labor was available under the quota fixed by the Works Progress Administration because of projects already operating. As soon as projects which were operating were completed and labor became available, these new projects were started.

TESTING LABORATORY

The Testing Laboratory was established in 1921 by the Department of Public Works for testing materials to meet the requirements of the Bureau of Public Roads in furnishing Federal aid for road construction.

At the present time very complete facilities are available to examine and evaluate all materials entering into the construction activities of the Department.

The Department aims to keep abreast of recent and modern development in order to insure good and durable construction and sound economical expenditure. The construction program of the Department calls for annual expenditures amounting to millions of dollars, which places heavy responsibility upon the laboratory for testing materials used.

Research for determining the behavior of various materials under the climatic conditions in this State is carried on. Equipment is in use for subjecting paints to accelerated weathering tests similar to the local conditions, and these tests are later supplemented by observations of materials actually exposed to weathering as occurs in practice.

Tests are made to determine the chemical and physical properties of materials used in cement concrete construction, and of bituminous materials, with a view to determine their characteristics, and for the selection of the superior types of mixture for use on highway work.

The scientific control of field operations under the direction of the laboratory organization is an essential part of the laboratory work. More than 4000 tests per year are made regularly.

TRAFFIC

Traffic Signs, Lights, Markings, Signal Systems and Regulations.

Under the provisions of chapters 85 and 89, General Laws, as amended, certain duties are placed upon the Department in order to secure uniformity in highway traffic signs, signals, markings, devices and regulations.

The Department is required to erect on all numbered routes such signs, etc., as it may deem necessary for promoting the public safety and convenience.

Traffic Signs, Signals, etc., erected by Department

Accordingly, the Department has, during the past year, erected those signs, etc.,	
Traffic signs	11
Traffic beacons	130
Traffic signs	17,653
Traffic markings (in miles)	687

The erection or designation of the foregoing was based upon accident analyses, traffic counts and speed checks. It is only through a close study of these that the need for warning or control can be accurately gauged.

Directional Signs and Route Markers erected by Department

Still other signs have been erected under the provisions of the first-named chapter. These are known as directional signs. Posted at or within intersections, these serve to direct the motorist to adjacent, contiguous and even remote towns.

Travel has been further facilitated by the opening of new routes and the marking of these with button signs which notify the motorist upon which route he is traveling.

The fabricating and painting of these signs are done at the Department's traffic shop.

Traffic Control Signals, Signs and Regulations Approved by Department

The provisions of the several chapters already referred to also make the validity of regulations made, or signs, etc., erected by cities and towns upon ways within their control, dependent upon the written approval of the Department of Public Works.

As a means of aiding the municipalities in this respect, the Department assigns its engineers to make studies, and to give advice to those cities and towns which desire to control vehicular traffic through the medium of regulations and signs.

This resulted during the past year in the Department's approving the following traffic control features:

Traffic signals	23
Traffic beacons	8
Traffic signs and markings	74
Traffic rules and regulations	98
Isolated stop signs	50
Safety zones	3

FEDERAL AID IN CONSTRUCTING HIGHWAYS

Statements as to the Acts of Congress and of the Massachusetts Legislature in respect to cooperation between the United States and the State of Massachusetts in the construction and maintenance of highways, including the Federal Highway Act, approved November 9, 1921, may be found in the annual report of the Department of Public Works for the years 1920 to 1927 inclusive.

A detail statement of Federal Aid Allotments and projects for Massachusetts appears in the Department Report for the fiscal year 1933. Additions and alterations for the fiscal years 1934, 1935, and 1936 and a summary of the allotments appear as follows:

Regular Federal Aid from June 30, 1916 to June 30, 1933	\$18,523,440
1931 Federal Emergency Advance Funds	1,141,460
Federal Emergency Relief and Construction Act of 1932	1,716,612
1934 National Recovery Funds (Appropriated under National Industrial Recovery Act, approved June 16, 1933)	6,597,100
1935 National Recovery Funds (Appropriated under The Hayden-Cartwright Act approved June 18, 1934)	3,350,474
1936 Regular Federal Aid Funds (Authorized under The Hayden-Cartwright Act approved June 18, 1934)	1,741,877
1937 Regular Federal Aid Funds (Authorized under The Hayden-Cartwright Act approved June 18, 1934)	1,743,487
Works Program—Highways	3,262,885
Works Program—Grade Crossings	4,210,833
(Appropriated under the Emergency Relief Appropriation Act of 1935)	
	<hr/>
	\$42,288,168
1938 Regular Federal Aid Funds (Authorized under the Hayden-Cartwright Act approved June 16, 1936) as follows:	
Regular Federal Aid	\$1,769,936
Secondary or Feeder Roads	353,987
Grade Crossings	1,047,500
	<hr/>
	3,171,423
Total Federal Funds of All Types Authorized	<hr/>
	\$45,459,591

There were fifty-five (55) projects prepared in addition to those shown on the Annual Report of the Department of Public Works for 1935. The length of Federal Aid Road and Bridge Projects in this state from the commencement of work of this type to November 30, 1936 inclusive is 1,127.371 miles, an increase of 50.594 miles over 1935.

In addition to these highway and bridge projects there were three (3) roadside improvement projects prepared totaling about 3.5 miles, which were all on old Federal Aid projects.

The total length of Federal Aid Projects (1,127.371 miles) divided according to the various counties is as follows:—

Barnstable	108.387	Hampshire	54.508
Berkshire	135.904	Middlesex	109.153
Bristol	92.132	Norfolk	92.684
Dukes	3.117	Plymouth	114.464
Essex	97.707	Suffolk	5.839
Franklin	55.530	Worcester	186.012
Hampden	71.934		
		Total	1,127.371

1934 National Recovery Funds

Allotted as follows:

NRH 56	Stoughton	\$117,194.77
NRH 57 (2)	Winchester	12,746.42
NRM 57 (1)	Woburn	14,140.19
NRH 57 (B)	Winchester	18,170.72
NRH 78	Burlington	22,671.06
NRH 89-A	Easton	38,908.87
NRH 89-C	Easton	40,017.36
NRM 126-A	Newburyport	547,399.77
NRM 130-B	Auburn	103,571.29
NRM 131-C	Springfield	207,487.36
NRH 138-B	Chester	46,792.64
NRH 143-B	Fairhaven	64,430.41
NRM 170-C	Quincy-Weymouth	1,976,400.49
NRH 172-B	Sterling-W. Boylston	124,037.32
NRH 173-C	Lanesborough	9,983.98
NRM 173-D	Pittsfield	30,896.49
NRH 174-B	Scituate-Marshfield	146,402.02
NRH 184-A	Charlton	34,775.70
NRH 184-C	Charlton-Oxford	34,347.72
NRH 188-F	Ashby-Townsend	117,531.69
NRH 189-E	Mattapoisett	80,642.31
NRH 189-F	Wareham	32,224.03
NRH 194-B	Templeton	41,226.36
NRH 199-C	Newbury	46,975.44
NRM 235-B	Brookline-Newton	210,478.94
NRH 240-B	West Boylston	7,263.08
NRM 241-A	East Boston-Revere	698,939.51
NRM 241-B	Revere	248,063.57
NRM 242-A	Arlington-Belmont-Cambridge	617,355.22
NRH 243-A	Amesbury	21,836.51
NRM 244-A	Boston (Hyde Park)	37,926.57
NRS 245-A	Huntington	141,633.69
NRS 246	Conway-Deerfield	234,689.75
NRS 247	Otis	106,186.86
NRM 248-A	North Adams	176,360.52
NRM 249	Worcester	104,345.23

Total for Roadway and Bridge Projects . . \$6,514,053.86 carried forward

1934 National Recovery Funds (continued)

Total for Roadway and Bridge Portions
(brought forward) \$6,514,053.86

Landscape Projects Financed
from these Funds (See 1935 Report)

Amount Allotted . . . \$39,752.76
Amount Reverted . . . 1,073.14

38,679.62

Total Amount Funds Allotted . . . \$6,552,733.48

Allotment	\$6,597,100.00
Total Amount Actually Allotted (from above)	6,552,733.48
Agreement Pending	\$44,366.52

The above projects are all completed and final payment received except NRM 170-C Quincy-Weymouth and NRM 249 Worcester which are completed but final payment not received.

The following projects also include traffic signals:

NRM 126-A	Newburyport
NRM 130-B	Auburn
NRH 172-B	Sterling-West Boylston
NRM 241-B	Revere
NRM 242-A	Arlington-Belmont-Cambridge

The following projects also include traffic signals: NRM 126-A Newburyport; NRM 130-B Auburn; NRH 172-B Sterling-West Boylston; NRM 241-B Revere; NRM 242-A Arlington-Belmont-Cambridge.

1935 National Recovery Funds	\$3,350,474.00
Allotted as follows:	

¹ NRM	21-C	Pittsfield	\$30,035.83
¹ NRM	91	Lowell	59,022.86
² NRM	69-B	Haverhill	42,203.56
² NRH	73	Southwick	133,561.79
¹ NRH	125-C	Bourne-Wareham	150,531.21
² NRH	98	Sheffield (Landscape)	330.72
² NRH	114	Lenox (Landscape)	7,056.32
² NRH	134-E	Rutland	19,155.95
² NRH	137-C	Sheffield (Landscape)	2,110.40
² NRH	147-A	Lenox (Landscape)	673.44
² NRM	155-C	Westfield	54,312.55
² NRH	173-E	Cheshire	149,590.82
² NRH	176-B	Bourne	77,811.54
² NRH	211-A	Northborough (Landscape)	11,317.53
¹ NRH	211-B	Framingham (Landscape)	1,800.00
² NRH	211-C	Natick (Landscape)	5,483.00
² NRH	211-F	Framingham (Landscape)	2,678.64
² NRS	247-B	Otis-Blandford	67,036.95
¹ NRH	250	Dracut-Methuen	285,253.51
¹ NRS	254	Athol-Orange	156,859.56
¹ NRH	256-A	Millbury	404,307.62
¹ NRS	257	Montague	313,669.92
NRM	235-E	Boston-Brookline	390,380.10
¹ NRH	251-A	Dedham-(Boston)	229,244.84
¹ NRM	251-B	Boston-(Dedham)	128,471.89
¹ NRS	253	Billerica-Chelmsford	107,176.54
² NRS	252	Blandford	53,368.79
¹ NRS	255	Andover	189,449.37
			3,072,877.25
Agreement Pending			\$277,596.75

¹ These projects completed—final payment not received.

² These projects completed—final payment received.

The following projects also include sidewalks: NRM 91 Lowell; NRH 250 Dracut-Methuen; NRH 251-A Dedham; NRM 251-B Boston; NRS 255 Andover.

The following projects also include traffic signals: NRH 256-A Millbury; NRH 251-A Dedham; NRM 251-B Boston.

Emergency Relief Appropriation Act of 1935

Works Program—Highways \$3,262,885.00
 Apportioned as follows:

¹ WPH	222-B	Greenfield	\$67,272.64
WPH	272-A	Lynnfield	271,940.00
WPMH	272-B	Peabody	717,080.00
WPSO	278-A	Mansfield	4,710.00
WPMH	284-A	Holyoke	163,530.00
WPSO	285-B	Mansfield	3,710.00
WPSO	290	Attleboro-North Attleborough- Plainville	252,640.00
WPSO	291	Clinton	86,170.00
WPSO	292	Marshfield-Pembroke	312,580.00
WPMH	293-A	Worcester	27,520.00
WPSO	304	West Bridgewater	85,860.00
¹ WPMH	267	Lynn	50,481.25
WPH-R	308-A	Deerfield-Sunderland	352,360.00
			<hr/> 2,395,853.89

Agreement Pending \$867,031.11

¹ These projects completed—final payment not received. All others under construction.

Emergency Relief Appropriation Act of 1935

Works Program—Grade Crossings \$4,210,833.00
 Apportioned as follows:

WPGH	75-A	Newbury	\$14,814.69
WPGH	75-B	Newbury-Newburyport	297,156.46
¹ WPGH	121-C	Weymouth	107,379.69
WPGH	137-D	Sheffield	111,494.62
WPGH	164-C	Ashburnham	116,380.00
WPGM	260	Quincy	329,367.72
WPGS	262	Sharon	151,133.23
WPGS	263	Ayer	117,333.04
WPGS	269	Canton-Norwood- Westwood	106,800.00
WPGS	270	Foxborough	131,360.00
¹ WPGS	271	Foxborough-Mansfield	22,791.76
WPGS	276	Lunenburg	78,851.19
WPGS	277	Sharon	65,060.00
WPGS	278-B	Mansfield	91,930.00
WPGS	279	Monson	119,230.00
WPGS	285-A	Mansfield	90,050.00
WPGS	289	Hopkinton-Westborough	91,990.00
WPGM	293-B	Worcester	348,260.00
WPGM	208-C	Waltham	207,519.98
¹ WPGM	280-A	Amherst	73,600.00
¹ WPGS	287	Braintree	10,069.29
¹ WPGM	275	Lawrence	80,223.13
			<hr/> 2,762,794.80

Agreement Pending \$1,448,038.20

¹ These projects completed—final payment not received. All others under construction.

1936 Hayden-Cartwright Projects \$1,741,877.00

Apportioned as follows:

3	Saugus	\$124,865.00
9	Saugus	579,675.00
17	Lynnfield	146,300.00
256-B	Millbury-Sutton	268,900.00

259	Pittsfield	\$136,485.00	
¹ 258	Bourne	166,967.55	
			\$1,423,192.55
Agreement Pending			\$318,684.45

¹ This project completed—final payment not received. All others under construction.

1937	Hayden-Cartwright Projects	\$1,743,487.00	
Apportioned as follows:			
36-A	Eastham-(Orleans)	\$103,155.00	
106-A	Bourne	48,475.00	
127-A	Holyoke	269,500.00	
175-B	Orleans-(Eastham)	25,895.00	
261	Malden-Revere-Saugus	456,780.00	
			903,805.00
Agreement Pending			\$839,682.00

These projects are all under construction.

BRIDGES

During the year the Department has prepared designs and plans for, and done other work relating to, bridges throughout the Commonwealth. The various cities and towns, the localities therein, the character of the structure and other details are as follows:

BRIDGES AND STRUCTURES BUILT OR CONTRACTED FOR *Cities and Towns, Locality and Character of Structure*

Adams—East Street over Tophet Brook; one 42-foot span, steel stringers with concrete floor.

Amherst—Tracks of Central Vermont Railway over College Street; one 55-foot span, through plate girder.

Ashburnham—At Astor House Crossing over tracks of Boston and Maine Railroad; multiple span concrete beams varying from 35 feet to 42 feet and one 42-foot steel stringer span with concrete floor; total length 272 feet.

Ayer—West Main Street over tracks of Boston and Maine Railroad: Eight spans of concrete beams varying from 30 feet to 36 feet and one 108-foot steel pony truss span with concrete floor; total length 337 feet.

Barnstable—Millway Road over Huckins Creek; one 20-foot span concrete slab.

Bourne—North County Road over Herring River; an 8-foot x 6-foot concrete box culvert.

Brookfield—Fiskdale Road over Quaboag River; two 39-foot spans, steel stringers with concrete floor.

Buckland—Scott Road over Clesson Brook; one 45-foot span, steel stringer bridge with concrete floor.

Canton—At Norwood and Westwood lines over Neponset River; seven 16-foot spans, creosoted timber pile trestle with concrete floor; total length 110 feet.

Canton—Dedham Road over tracks of New York, New Haven and Hartford Railroad; two 38-foot spans and one 71-foot span, steel stringers with concrete floor; total length 152 feet.

Clinton—Lancaster Mills Bridge over Nashua River; one 90-foot span and one 94-foot span, steel deck plate girders with concrete floor; total length 185 feet.

Deerfield—At Sunderland line, temporary bridge over Connecticut River; steel stringers with wood floor on steel pile trestle.

Deerfield—At Sunderland line over Connecticut River; six spans varying from 148 feet and 6 inches to 153 feet, steel deck trusses with concrete floor; total length 1050 feet.

East Brookfield—Podunk Road over Seven Mile River; two 32-foot-six-inch spans, one 44-foot span and one 50-foot span, steel stringers with concrete floor.

Foxborough—Tracks of New York, New Haven and Hartford Railroad over Cocasset Street; one 50-foot-six-inch span, deck plate girder.

Grafton—Shrewsbury Street over tracks of the Boston and Albany Railroad; one 36-foot concrete beam span, one 41-foot concrete beam span, one 70-foot steel stringer span; total length 147 feet; concrete floor.

Grafton—Shrewsbury Street, pedestrian passage under tracks of Boston and Albany Railroad; concrete box 8 feet wide and 7 feet-six inches high.

Greenfield—At Montague line, temporary bridge; six 74-foot spans, steel stringers with wood floor; total length 450 feet.

Hanson—State Street over Indian Head River; one 52-foot span, steel stringer with concrete floor.

Hopkinton—At Westborough line, Rocklawn Crossing over Sudbury River and tracks of the Boston and Albany Railroad; one 34-foot span and two 39-foot-six-inch spans, concrete beams; one 71-foot span, steel beams; concrete floor; total length 184 feet.

Lawrence—Tracks of Boston and Maine Railroad over Andover Street; one 130-foot-four-inch span, steel through plate girder.

Lunenburg—Leominster Road over tracks of Boston and Maine Railroad; two 35-foot-six-inch spans and one 39-foot span, steel stringers with concrete floor; total length 144 feet.

Lynnfield—Newburyport Turnpike over Circumferential Highway; one 44-foot span, concrete beams, and two 46-foot spans, steel stringers, with concrete floors; total length 140 feet.

Malden—At Revere line, Squire Road Extension over Lynn Street; one 63-foot span, steel stringers with concrete floor.

Mansfield—School Street over tracks of New York, New Haven and Hartford Railroad; one 125-foot span, steel through plate girder, with concrete floor.

Mansfield—Elm Street over tracks of New York, New Haven and Hartford Railroad; two 35-foot spans and one 60-foot span, steel stringers with concrete floor.

Marshfield—Plain and Ocean Streets over South River; one 15-foot span concrete slab.

Marshfield—Plain and Ocean Streets over Waste Water Stream; one 18-foot span concrete slab.

Middleton—At Peabody Line, Boston Street over Ipswich River; one 39-foot span, steel stringer with concrete floor.

Millbury—Worcester Road over West Main Street; two 31-foot-six-inch spans, concrete beams, and one 60-foot span steel stringers, with concrete floor; total length 156 feet.

Millbury—Worcester Road over Singletary Brook; one 20-foot span concrete arch.

Monson—Palmer Road over Chicopee Brook and over tracks of Central Vermont Railway; two 58-foot spans and two 101-foot spans, steel through plate girders, concrete floor; total length 323 feet.

New Marlborough—Great Barrington Road over Konkapot Brook; one 38-foot span, steel stringers with concrete floor.

Peabody—Northern Circumferential Highway over Lowell Street; one 41-foot span concrete beams, and one 59-foot span, steel stringers, with concrete floor.

Pembroke—Schoosett Street over Robinson Creek; one 16-foot span concrete slab

Pittsfield—Dalton Road over tracks of Boston and Albany Railroad; one 57-foot span, steel stringers with concrete floor.

Quincy—At Weymouth line, Fore River Bridge over Weymouth Fore River; removal of temporary bridge.

Quincy—At Weymouth line, Fore River Bridge over Weymouth Fore River; lights for bridge.

Quincy—At Weymouth line, Fore River Bridge over Weymouth Fore River; relocation of buildings and other work on approaches incidental to construction of bridge.

Quincy—Water Street over tracks of New York, New Haven and Hartford Railroad; one 26-foot span and one 35-foot span, steel stringers, and one 74-foot span, steel through plate girder, concrete floor.

Quincy—Tracks of New York, New Haven and Hartford Railroad over Town Brook; one 10-foot by 5-foot concrete box culvert.

Revere—Squire Road Extension over tracks of Boston and Maine Railroad; two 30-foot spans and one 36-foot-six-inch span, concrete beams, and one 36-foot-six-inch span, steel stringers; concrete floor; total length 134 feet.

Saugus—Main Street over Newburyport Turnpike; two 45-foot spans, steel stringers with concrete floor.

Saugus—Walnut Street over Newburyport Turnpike; one 37-foot span, concrete beams, and two 51-foot spans, steel stringers, concrete floor.

Saugus—Essex Street over Newburyport Turnpike; two 65-foot spans, steel stringers with concrete floor.

Sharon—South Main Street over tracks of New York, New Haven and Hartford Railroad; one 76-foot span steel through plate girder with concrete floor.

Sharon—Depot Street over tracks of New York, New Haven and Hartford Railroad; two 46-foot spans, concrete beams, and one 60-foot span, steel stringers, concrete floor.

Sheffield—Canaan Road over tracks of New York, New Haven and Hartford Railroad; three 51-foot spans, steel stringers with concrete floor.

Taunton—Tremont Street over Three Mile River; one 48-foot span, steel stringers with concrete floor.

Worcester—Barbers Crossing over tracks of Boston and Maine Railroad; one 120-foot-ten-inch span, steel through plate girders with concrete floor; two bridges, side by side.

Worcester—New Street over Neponset Street; one 51-foot-six-inch span, steel stringers with concrete floor.

Worcester—Pedestrian passage under tracks of Boston and Maine Railroad; concrete box 8 feet wide and 7-feet-six-inches high.

ALTERATIONS, REPAIRS AND EXTENSIONS TO BRIDGES AND STRUCTURES MADE OR CONTRACTED FOR

Buckland—At Charlemont line, Scotts Bridge over Deerfield River; repairing bridge seats.

Dartmouth—At Westport Factory; construction of new dam and extension of raceway and intake of dam.

Dudley—At Webster line, Pleasant Street over French River; repairs to steel plate girder.

Hadley—At Northampton line, over Connecticut River; repairs to bridge.

Holyoke—At South Hadley line, over Connecticut River; repairs to bridge.

Holyoke—Northampton Road; one 13-foot-six-inch span extension to existing bridge.

Lowell—Aiken Street Bridge over Merrimack River; construction of new wing wall.

Marshfield—Over Green Harbor River; 19-foot-four-inch concrete slab extension to existing bridge.

Newbury—Parker River Bridge; repairs to piers and abutments.

Northfield—Schell Bridge over Connecticut River; repairs to bridge.

Northfield—Bennetts Meadow bridge over Connecticut River; repairs to bridge.

Saugus—Newburyport Turnpike over Saugus River; widening of existing concrete bridge, 22-foot span concrete slab.

West Bridgewater—West Center Street over West Meadow Brook; widening of existing bridge, 15-foot concrete arch.

Westport—Westport Point Bridge over Westport River; repairs to timber trestle and draw.

CONTEMPLATED BRIDGES AND STRUCTURES

Plans, Studies or Estimates Made

Cities and Towns, Locality and Character of Structure

Adams—Center Street over Hoosic River; new bridge.

Adams—Lime Street over Hoosic River; replacement of bridge destroyed by flood.

Alford—New Road over Green River; new bridge.

Ashfield—Spruce Corner over Swift River; replacement of bridge destroyed by flood.

Ashland—Main and Cherry Streets over tracks of Boston and Albany Railroad; grade crossing elimination.

Ashland—Pedestrian passageway under tracks of Boston and Albany Railroad.

Athol—Crescent Street over Millers Rivers; replacement of bridge destroyed by flood.

Athol—At Orange line, Pinedale Avenue over Lawrence Brook; replacement of bridge destroyed by flood.

Athol—At Orange line, Fryeville Bridge over Tully River; replacement of bridge destroyed by flood.

Attleboro—Washington Street over tracks of New York, New Haven and Hartford Railroad; new bridge.

Barre—South Barre Road over Ware River; replacement of bridge destroyed by flood.

Barre—Powder Mill Bridge over Ware River; replacement of bridge destroyed by flood.

Belchertown—At Palmer line, Depot Street over Swift River; replacement of bridge destroyed by flood.

Belchertown—Granby Road over tracks of Boston and Maine Railroad; new bridge.

Berlin—Marlborough Road over Assabet River; replacement of bridge destroyed by flood.

Beverly—Paradise Crossing over tracks of Boston and Maine Railroad; grade crossing elimination.

Blandford—Russell Road over Freeland Brook; new bridge.

Bolton—Seven Bridge Road over Still River; replacement of bridge destroyed by flood.

Boston—At Cambridge line, Prison Point Bridge over tracks of Boston and Maine Railroad; proposed traffic circle.

Boston—At Milton line over Neponset River; bridge at new location.

Boston—At Milton line, Pauls Bridge over Neponset River; new bridge.

Boston—Porter Street over tracks of Boston and Albany Railroad; bridge on proposed Tunnel Road.

Boston—Prescott Street over proposed Tunnel Road; new bridge.

Boston—Bennington and Neptune Streets over proposed Tunnel Road; new bridge.

Boston—Saratoga Street over proposed Tunnel Road; new bridge.

Boston—Jamaicaway over Huntington Avenue; relieving platform on approach to bridge.

Boston—East Milton Street and proposed highway near Pauls Bridge; grade separation.

Braintree—Tracks of New York, New Haven and Hartford Railroad over Union Street; grade crossing elimination.

Brimfield—Sturbridge Road over Mill Brook; new bridge.

Brookline—Brookline Village; separation of highways.

Brookline—Cypress Street at Worcester Turnpike; grade separation.

Cambridge—Cottage Farm Bridge; alteration at approach.

Charlemont—At Shelburne line, Four Mile Square Road over North River; replacement of bridge destroyed by flood.

Cheshire—Auto Route 8 and tracks of Boston and Albany Railroad; grade crossing elimination.

Chesterfield—First Bridge over Stevens Brook; new bridge.

Chesterfield—Second Bridge over Stevens Brook; new bridge.

Chicopee—Plainfield Street; elimination of grade crossing.

Colrain—Adamsville Road over North River; replacement of bridge destroyed by flood.

Colrain—Frank Herzig Bridge over West Branch of North River; replacement of bridges destroyed by flood.

Colrain—Robert Hillman Bridge over West Branch of North River; replacement of bridge destroyed by flood.

Danvers—Tracks of Boston and Maine Railroad over Salem Turnpike; grade crossing elimination.

Danvers—Andover Street over Newburyport Turnpike; grade crossing elimination.

Dudley—At Webster line, Perryville Road over French River; replacement of bridge destroyed by flood.

Dudley—Brandon Road over French River; replacement of bridge destroyed by flood.

Edgartown—Katama Road over Mattakesett Brook; new bridge.

Erving—At Montague line, Paper Mill Bridge over Millers River; replacement of bridge destroyed by flood.

Fall River—At Somerset line, Slades Ferry Bridge over Taunton River; repairs or new bridge.

Falmouth—Nashawena Street over Nashawena Creek; new bridge.

Falmouth—Silver Beach Road over Herring River; new bridge.

Falmouth—Silver Beach Road over tracks of New York, New Haven and Hartford Railroad; new bridge.

Fitchburg—Circle Street over Nashua River; replacement of bridge destroyed by flood.

Fitchburg—Westminster Cut-off over Woodbury Mill Pond; new bridge.

Fitchburg—Lunenburg Street over Baker Brook overflow; replacement of bridge destroyed by flood.

Fitchburg—Westminster Cut-off over Monoosnoc Brook; two new bridges.

Florida—At Savoy line, Mohawk Trail over Cold River; new bridge.

Gardner—At Templeton line, Shoddy Mill Road over Otter River; replacement of bridge destroyed by flood.

Gardner—Mechanic Street over tracks of Boston and Maine Railroad; grade crossing elimination.

Gardner—Mechanic Street; pedestrian bridge over tracks of Boston and Maine Railroad.

Gill—At Montague line, Turners Falls over Connecticut River; new bridge.

Gloucester—Tracks of Boston and Maine Railroad over Essex Avenue; grade crossing elimination.

Grafton—Depot Street over Blackstone Canal; replacement of bridge destroyed by flood.

Hadley—Scotts Bridge over Mill River; replacement of bridge destroyed by flood.

Hadley—At Northampton line over Connecticut River; new bridge.

Hamilton—At Ipswich line, Highland Street over Ipswich River; new bridge.

Hanson—Main Street over Poor Meadow Brook; widening existing bridge.

Hatfield—Bridge Street over Mill River; replacement of bridge destroyed by flood.

Hatfield—West Street over Mill River; widening existing bridge.

Haverhill—River Street over Bradley Brook; widening of existing bridge.

Haverhill—At Methuen line, Bradley Avenue over Hawkes Brook; widening of existing arch.

Holden—River Street over Quinapoxet River; replacement of bridge destroyed by flood.

Holliston—Washington Street over tracks of Boston and Albany Railroad; grade crossing elimination.

Huntington—Main Street over Westfield River and tracks of Boston and Albany Railroad; grade crossing elimination.

Ipswich—Linebrook Road and Newburyport Turnpike; grade separation.

Lancaster—Center Bridge Road over Nashua River; replacement of bridge destroyed by flood.

Lawrence—Den Rock Road over Shawsheen River; new bridge.

Lee—Auto Route 20 over Housatonic River; repairs to bridge.

Leominster—Mechanic Street over Nashua River; replacement of bridge destroyed by flood.

Leominster—Tracks of New York, New Haven and Hartford Railroad over Westminster cut-off; grade crossing separation.

Leominster—North Main Street over Westminster cut-off; grade separation.

Lincoln—South Great Road over tracks of Boston and Maine Railroad; grade crossing elimination.

Lowell—Central Bridge over Merrimack River; new bridge.

Lowell—Moody Street over Merrimack River; replacement of bridge destroyed by flood.

Ludlow—At Wilbraham line, Red Bridge over Chicopee River; replacement of bridge destroyed by flood.

Lunenburg—Townsend Harbor Road over Mulpus Brook; replacement of bridge destroyed by flood.

Manchester—Proposed road over Manchester Harbor.

Mansfield—Proposed pedestrian passageway over tracks of New York, New Haven and Hartford Railroad.

Medfield—At Millis line, Dwight Street over Charles River; new bridge.

Milford—Medway Street over Boston and Albany Railroad; grade crossing elimination.

Milton—Proposed road over tracks of New York, New Haven and Hartford Railroad.

Monroe—Valley Road over Dunbar Brook; widening of existing bridge.

Newton—At Weston line, Northern Circumferential Highway over Charles River; new bridge.

Newton—At Wellesley line, over Charles River; new bridge.

North Adams—Williamstown Road over a brook; widening existing stone arch.

North Andover—Boxford Road over Mosquito Brook; new bridge.

Northbridge—Mendon Road over West River; new bridge.

Northfield—Burnham Road over Mill Brook; replacement of bridge destroyed by flood.

Northfield—Mt. Hermon Road over Nelson Pond; replacement of bridge destroyed by flood.

Orange—South Main Street over Millers River; replacement of bridge destroyed by flood.

Orange—Holtshire Street over Millers River; replacement of bridge destroyed by flood.

Orange—Warwick Road over Orcutt Brook; replacement of bridge destroyed by flood.

Oxford—Dudley Road over French River; replacement of bridge destroyed by flood.

Palmer—Main Street over Ware River; replacement of bridge destroyed by flood.

Palmer—Church Street over Ware River; replacement of bridge destroyed by flood.

Peabody—Lowell Street over Newburyport Turnpike; grade separation.

Peabody—Andover Street over Circumferential Highway; grade separation.

Pepperell—Main Street over Nashua River; replacement of bridge destroyed by flood.

Pepperell—Mill Street over Nissitisset River; replacement of bridge destroyed by flood.

Petersham—Choates Pond Bridge over Swift River; replacement of bridge destroyed by flood.

Pittsfield—South Street over tracks of New York, New Haven and Hartford Railroad; grade crossing elimination.

Pittsfield—South Street over Housatonic River; new bridge.

Princeton—At Sterling line, Pottery Mill Bridge over Keyes Brook; replacement of bridge destroyed by flood.

Princeton—Ropers Mill Bridge over Ware River; replacement of bridge destroyed by flood.

Randolph—North Street over tracks of New York, New Haven and Hartford Railroad; new bridge.

Rowley—Haverhill Street over Newburyport Turnpike; grade separation.

Royalston—King Street over Nashua River; replacement of bridge destroyed by flood.

Royalston—South Royalston Road over Millers River; replacement of bridge destroyed by flood.

Salisbury—Elm Street over tracks of Boston and Maine Railroad; new bridge.

Sharon—Garden Street over tracks of New York, New Haven and Hartford Railroad; Proposed pedestrian bridge.

Shrewsbury—Southwest Connection over Flint Pond; new bridge.

Shrewsbury—Southwest Connection over Lake Quinsigamond; new bridge.

Shrewsbury—Southwest Connection over Grafton Street; grade separation.

Southwick—College highway over Unele Olivers Brook; new bridge.

Southwick—State highway over Webb Brook; new bridge.

Sterling—Bridge Road over East Wachusett Brook; replacement of bridge destroyed by flood.

Sudbury—Boston Post Road over Parmenters Mill Pond; new bridge.

Sudbury—Worcester Road over tracks of New York, New Haven and Hartford Railroad; grade crossing elimination.

Sutton—Stevens Road over Mumford River; replacement of bridge destroyed by flood.

Sutton—Worcester Road over Wilkinsonville Road; grade separation.

Sutton—State highway over Mumford River; replacement of bridge destroyed by flood.

Sutton—Worcester Road over Central Turnpike; grade separation.

Swampscott—Tracks of Boston and Maine Railroad over Paradise Road; grade crossing elimination.

Topsfield—Ipswich Road over Newburyport Turnpike; grade separation.

Townsend—Warren Road over Squannacook River; replacement of bridge destroyed by flood.

Uxbridge—Mendon Street over Blackstone River; replacement of bridge destroyed by flood.

Ware—Church Street over Ware River; replacement of bridge destroyed by flood.

Ware—Gibbs Crossing over Ware River; replacement of bridge destroyed by flood.

West Bridgewater—West Centre Street over Hockamuck River; new bridge.

Weston—Circumferential Highway over South Avenue; grade separation.

Weston—Circumferential Highway over Weston Aqueduct; grade separation.

Williamstown—North Adams Road over Green River; new bridge.

Winchendon—Highway route No. 202 over Millers River; replacement of bridge destroyed by flood.

Winchendon—Brown Street over Millers River; replacement of bridge destroyed by flood.

Winchendon—Sibley Road over Millers River; replacement of bridge destroyed by flood.

Winchendon—Joe Alger Road over Millers River; replacement of bridge destroyed by flood.

Winchendon—High Street over Millers River; replacement of bridge destroyed by flood.

Winchendon—Royalston Road over Bullardville Brook; replacement of bridge destroyed by flood.

Winchendon—State highway route No. 12 over Millers River; replacement of bridge destroyed by flood.

Winchendon—New Boston Road over tracks of Boston and Maine Railroad; grade crossing elimination.

Winchendon—Ashburnham Road, Pequig Crossing over tracks of Boston and Maine Railroad; grade Crossing elimination.

Winchester—Main Street over outlet of Wedge Pond; new bridge.

Windsor—Worthington Road over two brooks; two new bridges.

Windsor—Savoy Road over Westfield River; new bridge.

*Examinations, Reports, Estimates, etc., at Request of
Counties, Cities and Towns.*

Berlin—Marlborough Road over Assabet River; examination and report on condition of bridge and repairs required.

Charlmont—Hawley Road over Deerfield River; estimate for new bridge.

Dudley—At Webster line, Pleasant Street over French River; examination and estimate for new bridge.

Framingham—Holliston Road over Washakum Pond; examination and report on condition of bridge.

Gill—At Montague line, Turners Falls Road suspension bridge over Connecticut River; examination and estimate for repairs.

Ludlow—At Wilbraham line, over Chicopee River; examination, report, and estimate for repairs.

Monson—Hampden Avenue over Chicopee Brook; examination and estimate for new bridge.

Royalston—South Royalston Road over Millers River; report on condition and method of repair.

Wareham—Agawam Road over Wareham River; examination and estimate for repairs.

Wareham—Dummy Bridge over Swift River; examination and estimate for repairs.

Warren—Main Street over Quaboag River; estimate for cost of repairs and for new bridge.

*Examinations, Reports, Estimates, etc., by direction of
the Department*

Agawam—At Springfield line, South End Bridge over Connecticut River; report on condition and estimate for new bridge.

Cummington—Village Bridge over Westfield River; report on condition.

Dudley—Pine Street over abandoned right-of-way of Southern New England Railroad; estimate of cost for filling in highway.

East Longmeadow—Bridge over tracks of New York, New Haven and Hartford Railroad; design of sidewalk for bridge.

Erring—At Montague line, Millers Falls Bridge over Millers River; examination and report on condition.

Falmouth—Nashawena Street over Nashawena Creek; examination and estimate for new bridge.

Falmouth—Silver Beach Road over Herring River; examination and estimate for new bridge.

Falmouth—Silver Beach Road over tracks of New York, New Haven and Hartford Railroad; examination and estimate for new bridge.

Greenfield—At Montague line, Montague City Bridge over Connecticut River; estimate for new bridge.

Greenfield—At Montague line, street railway bridge; estimate for alteration for use as highway bridge.

Groveland—At Haverhill line, Groveland Bridge over Merrimack River; report on condition.

Holyoke—At South Hadley line, over Connecticut River; examination, report and estimate for repairs.

Leicester—Cherry Valley Bridge over Kettle Brook; examination and report on condition.

Lowell—Central Bridge over Merrimack River; report on condition and estimate for new bridge.

Newburyport—At Salisbury line, over Merrimack River; report on advisability of new fender pier.

Norfolk—At Walpole line, Winter Street over Stop River; report on condition and estimate for widening bridge.

Northfield—Schell Bridge over Connecticut River; examination and report on condition of bridge.

Northfield—Bennetts Meadow Bridge over Connecticut River; examination and report on condition of bridge.

Palmer—Main Street over Canal; examination, report, and estimate for new bridge.

Ware—East Street over Ware River; examination and estimate for repairs.

*Bridge Plans Submitted and Examined during the Year under the Provisions of
Section 35, Chapter 85 of the General Laws (Ter. Edition)*

Charlton—Oxford Street over Little River; one 17-foot span, stone arch.

Charlton—Grover Road over Little River; one 24-foot span, steel stringers with concrete floor.

Charlton—Turner Road over Muddy Brook; one 17-foot span, stone arch.

Dudley—Hill Street over French River; one 50-foot span, steel stringers with concrete floor.

Fall River—Plymouth Avenue over Quequechan River; two spans, concrete beams; total length 63 feet.

Fitchburg—Princeton Road over Nashua River; one 32-foot span, extension of granite arch.

Haverhill—Lowell Avenue over Creek Brook.

Holden—Princeton Street over North Woods Stream; one 24-foot span, metal culvert.

Leicester—Auburn Street over Kettle Brook; one 18-foot span, stone arch.

Leicester—Chapel Street over Brick City Pond; one 20-foot span, steel stringers with concrete floor.

Leominster—Pond Street over Monoosnock Brook; one span, concrete beams.

Leominster—Exchange Street over Monoosnock Brook; one 45-foot span, concrete rigid frame.

Leominster—West Street; one 18-foot span, concrete beams.

Leominster—Lindell Avenue over Monoosnock Brook; one 36-foot span, concrete beams.

Pittsfield—Pomeroy Avenue, Lowden Bridge over East Branch Housatonic River; one 86-foot span, steel through plate girder with concrete floor.

Pittsfield—Columbus Avenue over West Branch Housatonic River; one 43-foot span, steel stringers with concrete floor.

Pittsfield—Lakeway Drive over outlet of Onota Lake; steel stringers with concrete floor.

Royalston—Fitzwilliam Road over Lawrence Brook; one 25-foot span, steel stringers with concrete floor.

Royalston—Winchendon Road over Priest Brook; one 30-foot span, steel stringers with concrete floor.

Rutland—Lower Intervale Road over Ware River; one 30-foot span, steel stringers with concrete floor.

Southbridge—Sandersdale Road; one 14-foot span, concrete slab.

Upton—West Street over West River; one 23-foot span, steel stringers with concrete floor.

Westminster—North Common Road over Whitman River; one 26-foot span, steel stringers with concrete floor.

Winchendon—Robbins Road over Robbins Pond Brook; one 20-foot span, steel stringers with concrete floor.

Report on advisability of using asphalt blocks for bridge surfacing.

TEMPORARY BRIDGES ACROSS THE CONNECTICUT RIVER TO AID IN RELIEVING THE EXISTING CONDITIONS RESULTING FROM THE RECENT FLOODS

Chapter 174, Acts of 1936 provided as follows:

SECTION 1. The department of public works is hereby authorized and directed, with the consent of the county commissioners of the county or counties in which temporary bridge construction may be required by reason of the damages caused by the recent floods and subject to such approval from the appropriate federal authorities as may be required, to construct temporary bridges across the Connecticut river at such points as said department and said county commissioners may determine in each case. For the aforesaid purpose, there may be expended from the appropriation hereinafter made and any federal funds that may be made available not more than four hundred and fifty thousand dollars in the aggregate.

SECTION 2. For the purpose of carrying out the provisions of this act, and subject to the conditions contained in section one, the sum of four hundred and fifty thousand dollars is hereby appropriated from the Highway Fund, subject to the provisions of law regulating the disbursement of public funds and the approval thereof.

Temporary bridges were constructed between Deerfield and Sunderland and between Greenfield and Montague. Expenditures were made as follows:

Deerfield-Sunderland	.	.	.	.	.	.	\$127,056.00
Greenfield-Montague	.	.	.	.	.	.	130,000.00
Holyoke-So. Hadley	.	.	.	.	.	.	171,808.11
Northampton-Hadley	.	.	.	.	.	.	21,135.89
Total	.	.	.	.	.	.	\$450,000.00

REPAIR OR RECONSTRUCTION OF CERTAIN BRIDGES DAMAGED BY RECENT FLOODS

Chapter 429, Acts of 1936 provided as follows:

SECTION 1. The department of public works, hereinafter called the department, is hereby authorized and directed to repair or reconstruct county, city or town bridges which were destroyed or damaged by the recent floods, to the extent that funds are made available therefor by the federal government and under this act. Projects hereunder shall be selected, so far as possible, in accordance with a tabulation of bridges damaged by the recent floods made by the department and dated June eighth, nineteen hundred and thirty-six, which shall be filed and kept open to public inspection in the office of the state secretary. Such bridges shall be repaired or reconstructed in such manner and in such locations as the department, with the approval of the county commissioners of the county where the bridge is located, may determine.

SECTION 2. The department may construct approaches to any of such bridges and make necessary alterations to street railways and railroad tracks and in connecting ways and may construct any necessary drainage outlets and cross any railroads at grade or otherwise as may be necessary to carry out the provisions of this act.

SECTION 3. There is hereby made available for the purposes of this act sums not exceeding, in the aggregate, six hundred and fifty thousand dollars, payable, with respect to each project hereunder, as follows:—one half by the commonwealth out of the unexpended balance of the appropriation made by chapter one hundred and forty-four of the acts of the current year, one fourth by the commonwealth from the Highway Fund, one eighth by the county and one eighth by the city or town in which the bridge is located, and, in addition, sums not exceeding, in the aggregate, one hundred thousand dollars, payable by the commonwealth for engineering services as follows:—one half out of said unexpended balance of the appropriation made by said chapter one hundred and forty-four and one half from the Highway Fund; provided, that sums amounting, in the aggregate, to not less than one million eight hundred and fifty thousand dollars shall have been made available for the purposes of this act by the federal government. In the event that a bridge subject to this section is located in more than one county, or in more than one municipality, the payment herein required to be made by the county, or by the municipality, shall be made in equal proportions by such counties, or by such municipalities.

SECTION 4. The amounts to be paid by cities and towns as aforesaid shall be assessed and collected by the state treasurer as a part of their state tax in the year nineteen hundred and thirty-seven.

SECTION 5. For the purpose of meeting payments required to be made under this act a city, town or county may borrow such sums as may be necessary, and may issue bonds or notes therefor which shall be payable in not more than ten years; and such indebtedness shall, except as herein provided, be subject to chapter forty-four of the General Laws in the case of a city or town, and to chapter thirty-five of the General Laws in the case of a county. Any borrowing hereunder by a city or town may be outside its statutory limit of indebtedness.

SECTION 6. For the purposes of this act, the department, on behalf of the commonwealth, or on behalf of any county, city or town, may enter upon or take by eminent domain under chapter seventy-nine of the General Laws, or acquire by purchase or otherwise, such public or private lands, or parts thereof or rights therein, or such public ways, as may be necessary for carrying out any project under this act, including such lands or rights therein as may be necessary for the construction of any necessary drainage outlets; provided, that no damages shall be paid for public lands or public ways so taken. Upon the filing of an order to that effect by the department in its office, the title to and control of lands or rights therein taken or acquired in connection with any project hereunder shall become vested in the county, city or town in whose behalf the land was taken or acquired as aforesaid. The cost of land takings, including any damages awarded on account of any taking of land or property, or any injury to the same, and any sums paid for lands or rights purchased, shall be paid by the commonwealth out of the proceeds of obligations issued under chapter four hundred and sixty-four of the acts of nineteen hundred and thirty-five, and the total amount so paid shall be included within the limit of aggregate ultimate liability on the part of the commonwealth specified in item (4) of section one of said

chapter four hundred and sixty-four. Sums paid under this section shall be in addition to those specified in section three of this act, but no payments under this section with respect to any project hereunder shall be made unless and until sums have been made available therefor by the federal government as provided in said section three.

SECTION 7. Upon completion of the repair or reconstruction of a bridge as herein authorized, the bridge, together with its approaches, shall continue to be or become a public highway and shall be maintained by the county or counties, or municipality or municipalities, in which it is located, according to whether said bridge is a county, city or town bridge.

The expenditures during the year for the Construction of Certain Bridges under chapter 429, in various Counties were as follows:

Berkshire	\$1,055.37	Hampshire	\$399.73
Franklin	1,443.25	Middlesex	13,831.31
Hampden	759.09	Worcester	14,457.81
		Eng.	\$18,051.89
		Total	\$49,998.45

Details of the foregoing expenditures follow:—

Berkshire County.—Cheshire, \$214.24; North Adams, \$244.34; Sandisfield, \$307.50; Windsor, \$289.29.

Franklin County.—Ashfield, \$14.52; Charlemont, \$43.15; Colrain, \$243.13; Conway, \$170.74; Erving, \$34.53; Montague, \$356.20; Northfield, \$207.08; Orange, \$14.52; Warwick, \$215.45; Wendell, \$143.93.

Hampden County.—Blandford, \$226.73; Brimfield, \$413.80; Chester, \$92.24; Ludlow, \$21.32; Wilbraham, \$5.

Hampshire County.—Easthampton, \$91.74; Hatfield, \$24.50; Ware, \$283.49.

Middlesex County.—Acton, \$572.30; Ashby, \$147.69; Dracut, \$909.24; Framingham, \$145.85; Hudson, \$58.15; Lowell, \$6,059.24; Maynard, \$30.; Pepperell, \$3,810.52; Shirley, \$1,422.99; Townsend, \$675.33.

Worcester County.—Ashburnham, \$1,025.29; Athol, \$360.72; Barre, \$20; Berlin, \$388.55; Blackstone, \$60.57; Charlton, \$441.63; Clinton, \$91.16; Dana, \$266.61; Dudley, \$72.07; Grafton, \$51.43; Hardwick, \$550.18; East Brookfield, \$56.20; Holden, \$417.18; Hubbardston, \$640.34; Leicester, \$1,378.02; Leominster, \$189.92; Lunenburg, \$838.87; Mendon, \$395.19; Millbury, \$190; North Brookfield, \$12.; Oxford, \$1,056.14; Petersham, \$383.47; Phillipston, \$101.86; Princeton, \$209.48; Royalston, \$484.07; Rutland, \$60; Spencer, \$673.01; Sterling, \$776.41; Sturbridge, \$338.49; Templeton, \$40; Upton, \$389.35; Uxbridge, \$900.56; Warren, \$122; West Boylston, \$19.50; West Brookfield, \$656.32; Westborough, \$44.91; Westminster, \$32.38; Winchendon, \$390; Worcester, \$333.93.

CONSTRUCTION OR RECONSTRUCTION OF THREE BRIDGES OVER THE CONNECTICUT RIVER AND ONE BRIDGE OVER THE MERRIMACK RIVER

Chapter 433, Acts of 1936 provides as follows:

SECTION 1. The department of public works, hereinafter called the department, is hereby authorized and directed to construct a bridge, and approaches thereto, across the Connecticut river from a point in the Turners Falls section of the town of Montague to a point on the state highway in the vicinity of the Riverside section of the town of Gill, and also a bridge, and approaches thereto, across said river at or near the site of the existing Sunderland—South Deerfield bridge, so called; provided, that the entire cost of such work shall be met substantially out of funds made available therefor by the federal government under the Federal Emergency Relief Appropriation Act of 1935, or any other appropriate federal statute. The said bridges, and approaches thereto, shall cross at other than grade any railroads or railroad sidings encountered.

SECTION 2. The department is hereby further authorized and directed to reconstruct the bridge over said river, known as the Northampton-Hadley bridge, at a total cost of not exceeding one million dollars; provided, that federal funds sufficient to pay substantially one half of said total cost are made available therefor under

the provisions of the act of congress known as the Hayden-Cartwright Road Act. Substantially one half of said total cost shall be paid out of federal funds made available therefor as aforesaid and the balance thereof shall be payable from the appropriation made by item six hundred and forty-three of chapter three hundred and four of the acts of the current year.

SECTION 3. The department is hereby further authorized and directed to construct a bridge, and approaches thereto, over the Merrimack river in the city of Lowell at or near the site of the existing Central bridge, so called, at a total cost of not exceeding five hundred thousand dollars; provided, that federal funds sufficient to pay forty per cent of said total cost are made available therefor under the provisions of any appropriate federal statute. Forty per cent of said total cost shall be paid out of federal funds made available therefor as aforesaid and the other sixty per cent thereof shall be payable as follows:—one half by the commonwealth from the Highway Fund, one fourth by the county of Middlesex and one fourth by the city of Lowell.

SECTION 4. Payments by the county of Middlesex and the city of Lowell under section three shall be paid into the treasury of the commonwealth upon written order of the department and sums so paid shall be available for expenditure by the department for the purposes of said section without appropriation by the general court.

SECTION 5. For the purpose of meeting payments required to be made as aforesaid, the county of Middlesex and the city of Lowell may each borrow such sums as may be necessary, and may issue bonds or notes therefor which shall be payable in not more than ten years; and such indebtedness shall, except as herein provided, be subject to chapter forty-four of the General Laws in the case of said city, and to chapter thirty-five of the General Laws in the case of said county. Any borrowing hereunder by said city may be outside its statutory limit of indebtedness.

SECTION 6. For the purposes of this act, the department, on behalf of the commonwealth, or on behalf of any county, city or town, may enter upon or take by eminent domain under chapter seventy-nine of the General Laws, or acquire by purchase or otherwise, such public or private lands, or parts thereof or rights therein, or such public ways, as may be necessary for carrying out any project under this act, including such lands or rights therein as may be necessary for the construction of any necessary drainage outlets; provided, that no damages shall be paid for public lands or public ways so taken. Upon the filing of an order to that effect by the department in its office, the title to and control of lands or rights therein taken or acquired in connection with any project hereunder shall become vested in the county, city or town in whose behalf the land was taken or acquired as aforesaid. The cost of land takings, including any damages awarded on account of any taking of land or property, or any injury to the same, and any sums paid for lands or rights purchased, shall be paid by the commonwealth out of the proceeds of obligations issued under chapter four hundred and sixty-four of the acts of nineteen hundred and thirty-five, and the total amount so paid shall be included within the limit of aggregate ultimate liability on the part of the commonwealth specified in item (4) of section one of said chapter four hundred and sixty-four. Sums paid under this section shall be in addition to those otherwise specified in this act, but no payments under this section with respect to any project hereunder shall be made unless and until sums have been made available therefor by the federal government as provided in this act.

SECTION 7. The department may make a contract or contracts for any project hereinbefore authorized if and when the federal authorities give proper assurance to it that the federal government will furnish the funds necessary to meet the cost of the construction involved therein, as provided by this act, notwithstanding the provisions of section twenty-seven of chapter twenty-nine of the General Laws.

SECTION 8. The department is hereby authorized to make such alterations to street railway and railroad tracks and in connecting ways and to construct such drainage outlets as may be necessary to carry out the provisions of this act.

SECTION 9. Each of the bridges, and approaches thereto, constructed hereunder shall, upon completion, become and be maintained as a public highway by the county in which located, except that the said bridge, and approaches thereto, constructed under section three in the city of Lowell shall be maintained by said city.

The bridge between Deerfield and Sunderland is under construction. The plans are being prepared for the other bridges and will be ready to advertise early in the spring.

EXAMINATIONS, STUDIES, ESTIMATES, REPORTS AND WORK DONE
BY DIRECTION OF ACTS AND RESOLVES OF THE LEGISLATURE

Chapter 71, Resolves of 1936,—Estimate of State Highway over the Route of the Old Middlesex Turnpike, so-called

The resolve provided for preparation of surveys, estimates, plans and specifications relative to a State highway over the route of the old Middlesex Turnpike from Lexington to North Chelmsford.

CONSTRUCTION OF TOWN AND COUNTY WAYS

(Section 34, Chapter 90, General Laws, Ter. Ed.)

During the year the Department has contracted for work to be done in the towns and cities named in the following table, which also shows the type of road or nature of work, the length contracted for, and the allotments or contributions by the State, towns, cities and counties:

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
<i>Barnstable County</i>					
Barnstable . . .	\$4,500 00	\$3,000 00	\$3,000 00	Gravel and tar mixed in place . . .	3,150
Barnstable . . .	10,000 00	5,000 00	5,000 00	Bridge and approaches . . .	—
Bourne . . .	6,750 00	4,500 00	4,500 00	Bituminous concrete . . .	3,825
Brewster . . .	1,125 00	750 00	750 00	Gravel and asphalt mixed in place . . .	3,894
Chatham . . .	9,000 00	4,500 00	4,500 00	Bituminous concrete . . .	6,097
Falmouth . . .	7,500 00	5,000 00	5,000 00	Bituminous concrete . . .	2,700
Falmouth . . .	119,500 00	—	—	Bituminous concrete . . .	5,446
Harwich . . .	1,350 00	675 00	675 00	Maintenance . . .	8,700
Harwich . . .	9,000 00	4,500 00	4,500 00	Bituminous concrete . . .	2,983
Orleans . . .	3,750 00	2,500 00	2,500 00	Bituminous concrete . . .	1,875
Orleans . . .	4,500 00	3,000 00	3,000 00	Bituminous concrete . . .	2,097
Wellfleet . . .	4,500 00	3,000 00	3,000 00	Clay hardening . . .	2,400
Yarmouth . . .	2,250 00	1,500 00	1,500 00	Maintenance . . .	11,515
<i>Berkshire County</i>					
Adams . . .	\$6,000 00	\$3,000 00	\$3,000 00	Bridge . . .	—
Alford . . .	1,125 00	750 00	750 00	Gravel . . .	1,150
Alford . . .	375 00	250 00	250 00	Gravel and tar . . .	800
Becket . . .	3,750 00	2,500 00	2,500 00	{Gravel . . .	1,450
				{Maintenance . . .	2,167
Cheshire . . .	2,400 00	1,200 00	1,200 00	Gravel . . .	1,700
Clarksburg . . .	1,500 00	750 00	750 00	{Stone retread . . .	1,200
				{Gravel . . .	225
Clarksburg . . .	375 00	250 00	250 00	Maintenance . . .	8,625
Dalton . . .	7,500 00	5,000 00	5,000 00	Penolithic pavement . . .	3,104
Egremont . . .	2,400 00	1,600 00	1,600 00	Stone retread . . .	2,900
Florida . . .	3,000 00	2,000 00	2,000 00	Gravel . . .	2,650
Great Barrington . . .	7,500 00	5,000 00	5,000 00	Penolithic pavement . . .	3,352
Hancock . . .	7,650 00	460 00	1,840 00	Maintenance . . .	2,000
Hancock . . .	250 00	333 33	333 33	Penolithic pavement . . .	9,400
Hinsdale . . .	750 00	500 00	500 00	Gravel . . .	1,050
Lanesborough . . .	3,750 00	2,500 00	2,500 00	Stone retread . . .	3,550
Lee . . .	500 00	2,000 00	500 00	{Stone retread . . .	1,600
				{Oiling . . .	1,000
				{Gravel . . .	400
Lee . . .	7,000 00	3,000 00	4,500 00	Bituminous macadam . . .	4,541
Lenox . . .	3,750 00	2,500 00	2,500 00	Bituminous macadam . . .	1,750
Lenox . . .	3,750 00	2,500 00	2,500 00	Oiling, stone retread, and gravel . . .	4,750
Monterey . . .	2,250 00	1,500 00	1,500 00	{Oiling . . .	2,225
				{Gravel . . .	1,975
Monterey . . .	1,100 00	500 00	850 00	Gravel and tar . . .	4,000
Mount Washington . . .	1,125 00	500 00	1,000 00	Gravel . . .	1,100
Mount Washington . . .	1,000 00	—	—	Gravel . . .	450
New Ashford . . .	600 00	400 00	400 00	Gravel . . .	700
New Ashford . . .	375 00	250 00	250 00	Gravel . . .	900
New Marlborough . . .	2,250 00	500 00	500 00	Tar reinforced with cotton fabric . . .	8,700
	55 09	—	55 09	Deficit . . .	—
New Marlborough . . .	3,000 00	2,500 00	2,500 00	Bridge and approaches . . .	—
North Adams . . .	11,250 00	7,500 00	7,500 00	Penolithic pavement . . .	2,912
North Adams . . .	3,000 00	2,000 00	2,000 00	Reinforced cement concrete . . .	2,100
Otis . . .	3,375 00	2,250 00	2,000 00	Gravel and oiling . . .	4,700
Peru . . .	3,000 00	—	—	Maintenance . . .	15,300
Pittsfield . . .	16,071 00	10,714 50	10,714 50	Reinforced cement concrete . . .	5,787
Pittsfield . . .	6,429 00	4,285 50	4,285 50	Penolithic pavement . . .	2,992
Richmond . . .	1,875 00	1,250 00	1,250 00	Gravel . . .	850

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town			
Richmond	470 00	625 00	625 00	Maintenance	15,840
Sandisfield	3,000 00	2,000 00	2,000 00	Gravel and tar	4,950
Savoy	1,500 00	500 00	1,500 00	Gravel and stone retreat	1,550
Sheffield	1,500 00	750 00	750 00	{ Stone retreat	2,100
				{ Oiling	700
Sheffield	1,500 00	750 00	750 00	Gravel	500
Stockbridge	9,000 00	6,200 00	6,000 00	Penolithic pavement	3,300
Tyringham	3,000 00	2,000 00	2,000 00	Maintenance	12,100
Washington	5,000 00	1,500 00	2,000 00	Gravel and oiling	5,450
West Stockbridge	2,625 00	1,750 00	1,750 00	Gravel and oiling	5,950
West Stockbridge	1,875 00	1,250 00	1,250 00	Gravel and tar	1,025
Williamstown	3,750 00	2,500 00	2,500 00	Gravel and stone retreat	5,050
Windsor	1,500 00	750 00	750 00	Gravel	1,000
<i>Bristol County</i>					
Acushnet	\$3,750 00	\$2,500 00	\$2,500 00	Penolithic pavement	1,450
Acushnet	375 00	500 00	500 00	Maintenance	20,819
Attleborough	18,000 00	12,000 00	12,000 00	Bituminous macadam	5,080
Berkley	750 00	1,000 00	1,000 00	Maintenance	46,936
Berkley }	3,250 00	1,725 00	1,875 00	{ Bridge	—
Dighton }	6,250 00	4,025 00	3,875 00		
Easton	4,500 00	4,500 00	—	Gravel and tar	3,500
Fairhaven	750 00	1,000 00	1,000 00	Maintenance	28,195
Freetown	750 00	1,000 00	1,000 00	Maintenance	62,527
Mansfield	4,500 00	3,000 00	3,000 00	Gravel and tar	2,300
Norton	190 00	250 00	250 00	Maintenance	23,194
Raynham	375 00	500 00	500 00	Maintenance	16,080
Rehoboth	2,625 00	2,625 00	—	Gravel and tar	1,250
Rehoboth	600 00	800 00	800 00	Maintenance	49,437
Taunton	10,000 00	5,000 00	5,000 00	Bridge and approaches	—
Westport	22,500 00	11,250 00	11,250 00	Bridge repairs	—
<i>Dukes County</i>					
West Tisbury	\$750 00	\$500 00	\$500 00	Maintenance	10,560
<i>Essex County</i>					
Amesbury	\$750 00	\$750 00	—	Maintenance	10,600
Andover	9,750 00	4,875 00	6,500 00	Penolithic pavement	4,584
Boxford	1,500 00	1,500 00	—	Maintenance	10,000
Boxford	900 00	150 00	1,000 00	Maintenance	5,200
Boxford	2,250 00	1,125 00	1,000 00	Grading	1,685
Boxford	2,250 00	1,125 00	1,000 00	Stone retreat	900
Danvers	5,250 00	3,500 00	3,500 00	Bituminous macadam	2,100
Essex	750 00	750 00	—	Maintenance	12,000
Georgetown	563 00	563 00	—	Maintenance	9,100
Gloucester	2,250 00	2,250 00	—	Bituminous macadam	1,650
Gloucester	1,500 00	1,500 00	—	Broken stone surfacing	1,650
Hamilton	5,625 00	3,750 00	3,750 00	Bituminous macadam	3,041
Hamilton	3,000 00	2,000 00	2,000 00	Grading	2,985
Haverhill	27,000 00	13,500 00	13,500 00	Penolithic pavement	4,407
Haverhill	26,250 00	27,500 00	17,500 00	Penolithic pavement	7,932
Lawrence	16,500 00	8,250 00	11,000 00	{ Reinforced cement concrete	4,282
				{ Bituminous concrete	400
Lynn	2,250 00	1,125 00	1,500 00	Bituminous macadam	565
Lynn	18,750 00	18,750 00	—	Bituminous macadam	2,950
Lynnfield	3,750 00	2,500 00	2,500 00	Bituminous macadam	1,550
Lynnfield	3,750 00	2,500 00	2,500 00	Oiling and bituminous macadam	3,800
Manchester	4,025 00	671 00	2,683 00	Grading	—
Manchester	4,975 00	829 00	3,317 00	Bituminous macadam	1,650
Marblehead	4,000 00	2,000 00	2,000 00	Bituminous macadam	993
Merrimac	375 00	375 00	—	Maintenance	5,502
Methuen	\$15,000 00	\$10,000 00	\$10,000 00	{ Bituminous concrete	3,150
				{ Bituminous macadam	780
Middleton	1,125 00	1,125 00	—	Maintenance	9,600
Middleton }	3,012 50	410 00	1,738 00	{ Bridge and approaches	—
Peabody }	4,875 00	1,000 00	2,500 00		
Middleton	23,800 50	3,715 00	15,762 00	Bituminous macadam	4,712
Newbury	1,125 00	1,125 00	—	Maintenance	14,000
Newbury	700 00	—	500 00	Gravel and tar	3,400
North Andover	3,750 00	2,500 00	2,500 00	Broken stone and asphalt mixed in place	4,100
Peabody	15,000 00	10,000 00	10,000 00	Bituminous macadam, etc.	3,310
Rockport	750 00	375 00	—	Repairs	—
Rockport	1,215 00	1,215 00	—	Maintenance	5,718
Rowley	750 00	375 00	500 00	Grading	1,000
Rowley	750 00	375 00	500 00	Grading and oiling	1,600
Salisbury	1,749 00	874 00	874 00	Gravel and tar mixed in place	2,000
Salisbury	3,750 00	2,500 00	2,500 00	Grading	1,350
Salisbury	375 00	375 00	—	Maintenance	1,065
Saugus	1,500 00	1,500 00	—	Maintenance	21,500
Saugus	4,500 00	3,000 00	3,000 00	Penolithic pavement	1,457
Saugus	3,750 00	2,000 00	2,500 00	Bituminous macadam and oiling	3,000
Topsfield	200 00	200 00	—	Maintenance	3,600
Topsfield	11,250 00	2,000 00	5,000 00	Bituminous concrete	4,115
West Newbury	1,500 00	750 00	1,000 00	Broken stone and asphaltic emulsion	2,700

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
<i>Franklin County</i>					
Ashfield	\$750 00	\$375 00	\$375 00	Maintenance	7,500
Ashfield	1,800 00	—	—	Maintenance	15,840
Ashfield	750 00	375 00	375 00	Gravel and tar mixed in place	2,400
Buckland	4,000 00	3,000 00	1,000 00	Bridge and approaches	—
Charlemont	1,500 00	750 00	750 00	Broken stone and tar mixed in place	2,000
Colrain	1,500 00	750 00	750 00	Bituminous macadam	600
Conway	1,500 00	750 00	750 00	Gravel	850
Deerfield	2,250 00	1,500 00	750 00	Bituminous macadam	1,050
Erving	1,500 00	750 00	750 00	Gravel and tar	2,000
Gill	1,500 00	750 00	750 00	Gravel and tar mixed in place	1,000
Gill	2,500 00	—	—	Bituminous material reinforced with cotton fabric	10,560
Greenfield	3,750 00	3,000 00	750 00	Bituminous macadam	3,600
Hawley	1,500 00	375 00	375 00	Bridge and approaches	—
Hawley	1,500 00	375 00	375 00	Maintenance	8,100
Heath	1,500 00	750 00	750 00	Bridge widening and approaches	—
Leverett	750 00	375 00	375 00	Maintenance	11,352
Leverett	750 00	375 00	375 00	Maintenance	3,696
Leyden	1,500 00	750 00	750 00	Gravel and tar	900
Monroe	1,500 00	750 00	750 00	Gravel and tar mixed in place	4,500
New Salem	2,250 00	1,500 00	750 00	Gravel	1,500
Northfield	2,000 00	1,000 00	1,000 00	Bridge and approaches	—
Northfield	30,000 00	—	—	Repairs to two bridges	—
Orange	2,250 00	1,500 00	750 00	Gravel and tar	2,650
Rowe	2,250 00	1,125 00	750 00	Gravel	1,650
Shelburne	1,125 00	750 00	375 00	Bituminous macadam	1,200
Shelburne	1,125 00	750 00	375 00	Bituminous macadam	1,200
Shutesbury	1,500 00	750 00	750 00	Gravel	1,050
Sunderland	10,000 00	3,000 00	1,000 00	Penolithic pavement	5,250
Warwick	1,500 00	750 00	750 00	Gravel	750
Wendell	2,250 00	1,500 00	750 00	Gravel	1,800
Wendell	1,125 00	1,125 00	—	Maintenance	19,272
Whately	1,500 00	750 00	750 00	Bituminous macadam	1,000
<i>Hampden County</i>					
Agawam	\$5,625 00	\$3,750 00	\$1,875 00	Bituminous macadam	2,266
Agawam	1,800 00	900 00	900 00	Maintenance	19,536
Blandford	3,000 00	1,500 00	1,800 00	{Gravel	1,000
				{Oiling and stone retread	2,550
Brimfield	2,250 00	1,125 00	1,125 00	Grading	2,400
Chester	3,000 00	750 00	1,500 00	Stone retread	2,500
Chester	3,000 00	750 00	1,500 00	Gravel and oiling	5,000
Chicopee	18,750 00	12,500 00	9,375 00	Bituminous macadam	7,650
East Longmeadow	1,125 00	1,125 00	1,125 00	Maintenance	26,000
Granville	4,500 00	2,250 00	2,250 00	Bituminous macadam	1,300
Hampden	1,350 00	600 00	750 00	Bituminous macadam and oiling	2,000
Hampden	800 00	200 00	400 00	Bituminous macadam and oiling	1,150
Hampden	2,250 00	900 00	1,350 00	Gravel and tar mixed in place	2,300
Holland	375 00	375 00	375 00	Maintenance	25,600
Holland	3,000 00	750 00	2,400 00	Gravel and tar mixed in place	1,575
Holyoke	50,000 00	—	—	Reinforced concrete deck, sidewalk and curb on bridge	—
Longmeadow	5,625 00	2,812 00	2,812 00	Gravel and asphalt mixed in place	5,000
Ludlow	5,250 00	2,625 00	2,625 00	Bituminous macadam	2,500
Ludlow	500 00	500 00	500 00	Maintenance	2,500
Monson	3,750 00	2,500 00	1,875 00	Gravel and tar mixed in place	1,900
Monson	488 00	650 00	488 00	Maintenance	9,530
Montgomery	3,750 00	750 00	1,875 00	{Stone retread	3,400
				{Gravel	950
Palmer	7,500 00	3,750 00	3,750 00	Penolithic pavement	2,703
Palmer	\$1,500 00	\$750 00	\$750 00	Maintenance	13,250
Palmer	360 00	360 00	360 00	Maintenance	6,550
Russell	750 00	375 00	375 00	Gravel	850
Southwick	3,750 00	1,500 00	2,250 00	Bituminous macadam	2,000
Tolland	3,750 00	1,500 00	2,250 00	Gravel	3,000
Wales	2,250 00	750 00	1,500 00	Gravel and tar mixed in place	1,400
Wales	225 00	225 00	225 00	Maintenance	11,800
West Springfield	18,000 00	9,000 00	9,000 00	Bituminous macadam	2,535
Westfield	4,500 00	2,250 00	2,250 00	Bituminous macadam	4,000
Westfield	750 00	750 00	750 00	Maintenance	18,555
Wilbraham	3,750 00	1,875 00	1,875 00	Bituminous macadam	1,800
<i>Hampshire County</i>					
Amherst	\$9,000 00	\$6,000 00	\$3,500 00	Bituminous macadam	3,345
Belchertown	5,625 00	3,750 00	3,750 00	Bituminous macadam	2,665
Belchertown	10,625 00	—	1,250 00	Grading	6,700
Chesterfield	750 00	375 00	375 00	Gravel	500
Chesterfield	18,000 00	3,000 00	5,000 00	Stone and tar mixed in place and gravel treated with tar	750
Cummington	750 00	375 00	375 00	Gravel and tar	823
Cummington	2,250 00	1,125 00	1,125 00	Gravel	1,300
Easthampton	8,250 00	7,000 00	4,000 00	Bituminous macadam	3,520
Easthampton	2,500 00	—	1,500 00	Bituminous macadam	820
Enfield	375 00	375 00	375 00	Maintenance	11,660

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town	County		
Goshen	1,500 00	750 00	750 00	Gravel	1,000
Greenwich	750 00	500 00	500 00	Maintenance	19,008
Huntington	3,000 00	1,500 00	1,500 00	Stone retread	4,000
				Gravel	1,200
Middlefield	1,500 00	750 00	750 00	Gravel	450
Middlefield	7,000 00	—	—	Stone retread	7,196
Middlefield	750 00	375 00	375 00	Gravel	400
Northampton	5,138 00	2,888 00	2,250 00	Bituminous macadam	2,550
Northampton	5,137 00	2,887 00	2,250 00	Bituminous macadam	1,800
Plainfield	1,500 00	1,000 00	1,000 00	Gravel and tar	1,100
Southampton	750 00	375 00	375 00	Gravel	900
Ware	750 00	500 00	500 00	Grading and oiling	325
Ware	1,350 00	900 00	900 00	Bituminous macadam	500
Westhampton	1,125 00	562 00	563 00	Gravel	1,200
Williamsburg	1,500 00	750 00	750 00	Gravel and tar mixed in place	1,500
Worthington	1,500 00	1,000 00	1,000 00	Gravel	950
Worthington	1,500 00	1,000 00	1,000 00	Gravel	1,750

Middlesex County

Acton	\$1,500 00	\$2,000 00	\$2,000 00	Maintenance	102,432
Arlington	3,750 00	2,500 00	2,500 00	Bituminous macadam	1,050
Ashby	750 00	500 00	1,000 00	Maintenance	17,952
Ashland	1,125 00	1,500 00	1,875 00	Maintenance	30,096
Ashland	938 00	500 00	750 00	Gravel and tar	1,800
Ayer	1,500 00	2,000 00	2,000 00	Maintenance	50,054
Ayer	5,250 00	3,500 00	3,500 00	Bituminous macadam	1,498
Bedford	3,000 00	2,000 00	2,000 00	Bituminous macadam	2,000
Bedford	1,500 00	1,000 00	1,500 00	Bituminous macadam	1,000
Bedford	1,500 00	2,000 00	2,500 00	Maintenance	46,464
Belmont	15,525 00	13,800 00	6,900 00	Bituminous concrete	3,560
Billerica	2,250 00	2,250 00	2,250 00	Maintenance	97,838
Billerica	2,250 00	3,000 00	1,500 00	Bituminous macadam	1,575
Billerica	3,375 00	3,000 00	1,500 00	Bituminous macadam	1,100
Billerica	1,125 00	1,000 00	500 00	Gravel	1,400
Boxborough	563 00	250 00	500 00	Gravel	1,000
Boxborough	600 00	800 00	800 00	Maintenance	23,479
Burlington	2,250 00	3,000 00	3,000 00	Maintenance	79,728
Burlington	2,250 00	1,125 00	1,500 00	Gravel and tar	2,225
Burlington	3,000 00	2,000 00	2,000 00	Bituminous macadam	450
				Gravel	970
Burlington	3,000 00	2,000 00	2,000 00	Gravel and tar	3,900
Carlisle	1,500 00	2,000 00	2,000 00	Maintenance	64,944
Chelmsford	2,250 00	3,000 00	3,000 00	Maintenance	83,952
Concord	12,375 00	8,937 50	5,500 00	Bituminous macadam	4,630
Concord	1,312 00	1,531 00	1,750 00	Maintenance	99,739
Draeut	2,250 00	3,000 00	3,000 00	Maintenance	56,232
Dunstable	1,125 00	1,500 00	1,500 00	Maintenance	50,160
Dunstable	1,500 00	1,000 00	1,000 00	Maintenance	42,240
				Penolithic pavement	5,620
Frammingham	33,750 00	24,375 00	15,000 00	Bituminous concrete	150
				Oiling	3,090
Frammingham	1,500 00	2,000 00	2,500 00	Maintenance	85,483
Groton	2,625 00	3,500 00	4,375 00	Maintenance	55,018
Groton	4,500 00	3,000 00	3,000 00	Gravel and tar	4,400
Holliston	675 00	300 00	600 00	Gravel and tar	921
Holliston	4,500 00	1,000 00	4,000 00	Bituminous macadam	1,800
Holliston	1,125 00	1,500 00	1,500 00	Maintenance	46,772
Hopkinton	1,500 00	2,000 00	2,000 00	Maintenance	70,224
Hudson	12,375 00	11,000 00	9,625 00	Penolithic pavement	3,670
Hudson	750 00	1,000 00	1,250 00	Maintenance	55,176
Lexington	10,725 00	9,300 00	5,000 00	Bituminous macadam	3,855
Lexington	1,350 00	1,200 00	600 00	Gravel and tar	250
Lexington	1,500 00	2,000 00	2,000 00	Maintenance	56,549
Lincoln	2,250 00	1,500 00	1,500 00	Bituminous macadam	and
				gravel (widening)	17,424
Lincoln	750 00	1,000 00	1,000 00	Maintenance	36,960
Littleton	2,250 00	1,500 00	1,500 00	Gravel and tar	2,500
Littleton	1,575 00	2,100 00	2,100 00	Maintenance	60,192
Malden	30,000 00	21,000 00	15,000 00	Bituminous macadam	5,679
Marlborough	5,062 00	4,500 00	2,500 00	Bituminous macadam	1,008
Maynard	750 00	1,000 00	1,000 00	Maintenance	35,218
Maynard	4,500 00	4,000 00	2,000 00	Bituminous macadam	1,258
Maynard				Gravel and tar (widening)	5,300
Medford	4,125 00	3,600 00	3,000 00	Bituminous concrete	700
Natick	8,775 00	7,800 00	3,900 00	Bituminous macadam	2,575
Natick	1,125 00	1,500 00	1,875 00	Maintenance	57,394
Natick	3,300 00	2,200 00	2,200 00	Drainage system	—
Newton	18,750 00	20,000 00	8,375 00	Bituminous concrete	2,195
Newton				Bituminous concrete	2,050
Newton	30,000 00	31,000 00	16,500 00	Bituminous concrete	7,720
North Reading	1,500 00	2,000 00	2,000 00	Maintenance	52,272
North Reading	4,500 00	3,000 00	3,000 00	Bituminous macadam	3,000
Pepperell	3,000 00	4,000 00	4,000 00	Maintenance	83,424
Reading	4,500 00	3,000 00	3,000 00	Bituminous macadam	1,600
Reading	4,500 00	4,000 00	2,000 00	Bituminous macadam	1,800
Reading	750 00	1,000 00	1,250 00	Maintenance	31,838
Sherborn	1,875 00	2,500 00	2,500 00	Maintenance	74,448

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town	County		
Shirley	6,000 00	4,000 00	4,000 00	Gravel and tar	6,025
Shirley	1,500 00	2,000 00	2,000 00	Maintenance	51,216
Stoneham	5,625 00	5,000 00	2,500 00	Bituminous macadam	1,410
Stow	1,500 00	2,000 00	2,500 00	Maintenance	41,184
Sudbury	1,500 00	2,000 00	2,000 00	Maintenance	81,840
Tewksbury	1,500 00	2,000 00	2,000 00	Maintenance	52,272
Tewksbury	750 00	500 00	500 00	Gravel	800
Townsend	1,500 00	2,000 00	2,000 00	Maintenance	39,442
Townsend	1,500 00	1,000 00	1,000 00	Gravel and oiling	2,200
Tyngsborough	1,500 00	1,000 00	1,000 00	Gravel and tar	2,000
Tyngsborough	1,500 00	1,000 00	1,500 00	Gravel and tar	1,900
Tyngsborough	1,875 00	2,500 00	2,500 00	Maintenance	82,896
Wakefield	6,750 00	4,875 00	3,000 00	Bituminous macadam	2,625
Wakefield	1,500 00	2,000 00	2,500 00	Maintenance	42,504
Wakefield	3,375 00	2,437 50	1,500 00	Bituminous macadam	1,000
Waltham	6,750 00	4,500 00	4,500 00	Bituminous macadam	4,350
Watertown	3,600 00	2,400 00	2,400 00	Bituminous concrete	1,480
Watertown	7,800 00	5,200 00	5,200 00	Bituminous macadam	2,855
Wayland	6,750 00	6,000 00	3,000 00	Bituminous macadam	3,325
Wayland	1,875 00	2,500 00	2,500 00	Maintenance	52,800
Westford	3,750 00	3,750 00	3,750 00	Maintenance	143,088
Wilmington	1,500 00	750 00	750 00	Gravel and tar	850
Wilmington	900 00	1,200 00	1,450 00	Maintenance	39,917
Winchester	28,125 00	30,000 00	15,000 00	Bituminous concrete	6,842
Winchester	3,000 00	2,000 00	1,000 00	Bridge and approaches	—
Woburn	20,250 00	18,000 00	9,000 00	Bituminous concrete	4,650
Woburn				Bituminous macadam	970

Norfolk County

Avon	\$150 00	\$150 00	\$150 00	Maintenance	29,198
Bellingham	1,500 00	375 00	750 00	Maintenance	62,040
Brookline	7,500 00	7,500 00	—	Bituminous concrete	2,711
Brookline				Curbing	—
Canton	750 00	750 00	750 00	Maintenance	13,992
Dedham	7,125 00	9,500 00	—	Penolithic pavement	2,398
Foxborough	750 00	750 00	750 00	Maintenance	11,299
Franklin	5,250 00	5,250 00	—	Gravel and tar	3,000
Franklin	2,625 00	3,500 00	—	Gravel and tar	1,300
Franklin	750 00	1,600 00	750 00	Maintenance	45,566
Holbrook	375 00	375 00	375 00	Maintenance	29,462
Medway	1,000 00	1,000 00	1,000 00	Maintenance	61,618
Millis	750 00	750 00	750 00	Maintenance	66,053
Norfolk	637 00	637 00	637 00	Maintenance	63,571
Norwood	4,875 00	4,875 00	—	Bituminous concrete	3,950
Randolph	600 00	600 00	600 00	Maintenance	27,456
Sharon	750 00	750 00	750 00	Maintenance	46,464
Stoughton	375 00	375 00	375 00	Maintenance	29,146
Walpole	9,375 00	9,375 00	—	Penolithic pavement	2,820
Walpole	750 00	750 00	750 00	Maintenance	44,035
Westwood	2,250 00	2,250 00	750 00	Maintenance	21,120
Weymouth	15,000 00	15,000 00	—	Bituminous concrete	3,300
Wrentham	3,000 00	3,000 00	—	Gravel and tar	2,300
Wrentham	3,000 00	3,000 00	—	Gravel and tar	2,700
Wrentham	750 00	750 00	750 00	Maintenance	17,318

Plymouth County

Abington	\$7,500 00	\$3,750 00	\$3,750 00	Penolithic pavement	2,081
Bridgewater	2,250 00	1,125 00	1,125 00	Gravel and tar	6,200
Brockton	20,250 00	20,250 00	—	Bituminous macadam	5,800
Carver	2,250 00	1,125 00	1,125 00	Gravel and tar mixed in place	3,000
Halifax	3,750 00	1,875 00	1,875 00	Gravel and tar	5,000
Hanson	4,000 00	2,000 00	2,000 00	Bridge and approaches	—
Hull	22,500 00	30,000 00	10,000 00	Dredging and constructing wharf with appurtenant structures	—

(Contribution by Federal Government \$53,325.00)

Kingston	5,250 00	2,625 00	2,625 00	Gravel and tar mixed in place	3,800
Marion	3,750 00	1,875 00	1,875 00	Bituminous macadam	1,850
Marshfield	4,500 00	2,250 00	2,250 00	Bridge extension	—
Mattapoisett	3,000 00	1,500 00	1,500 00	Bituminous macadam	1,000
Plymouth	4,875 00	2,437 00	2,437 00	Gravel and tar mixed in place	7,800
Rockland	7,500 00	3,750 00	3,750 00	Penolithic pavement, etc.	1,970
West Bridgewater	4,500 00	2,250 00	2,250 00	Gravel and tar	4,400
Whitman	12,750 00	6,375 00	6,375 00	Drainage system	—

Worcester County

Ashburnham	\$1,312 00	\$1,000 00	\$1,750 00	Maintenance	39,338
Athol	4,350 00	2,800 00	2,800 00	Bituminous macadam	724
Athol	1,125 00	1,500 00	1,500 00	Maintenance	44,563
Auburn	7,500 00	5,000 00	5,000 00	Stone and tar mixed in place	3,250
Auburn	225 00	300 00	300 00	Maintenance	13,140
Barre	6,000 00	4,000 00	4,000 00	Gravel and tar mixed in place	5,000
Barre	750 00	1,000 00	1,250 00	Maintenance	25,924
Berlin	5,250 00	3,500 00	3,500 00	Gravel and tar mixed in place	1,810
Berlin	1,875 00	1,000 00	2,500 00	Maintenance	51,327
Blackstone	4,500 00	3,000 00	3,000 00	Gravel and tar mixed in place	2,150
Blackstone				Trap rock and tar mixed in place	2,244
Blackstone	3,000 00	2,000 00	2,000 00	Gravel and tar mixed in place	3,20

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town	County		
Blackstone	750 00	1,000 00	1,000 00	Maintenance	47,892
Bolton	2,250 00	1,000 00	2,000 00	Grading and oiling	1,800
Bolton	1,500 00	1,000 00	2,000 00	Maintenance	50,701
Boylston	2,750 00	2,500 00	3,000 00	Maintenance	53,055
Brookfield	750 00	500 00	1,000 00	Gravel and tar mixed in place	1,650
Brookfield	7,500 00	5,000 00	5,000 00	Bridge	—
Brookfield	750 00	500 00	1,000 00	Maintenance	21,775
Charlton	2,475 00	1,500 00	1,800 00	Gravel and tar mixed in place	3,000
Charlton	1,725 00	1,000 00	1,300 00	Grading	4,849
Charlton	750 00	500 00	1,000 00	Maintenance	34,224
Charlton	1,500 00	750 00	750 00	Gravel and tar mixed in place	1,300
Clinton	10,500 00	7,000 00	7,000 00	Penolithic pavement	4,150
Clinton	375 00	250 00	250 00	Trap rock and tar mixed in place	1,050
Dana	1,875 00	1,000 00	2,500 00	Maintenance	75,140
Dana	1,500 00	500 00	1,500 00	Gravel and tar	3,500
Douglas	3,750 00	2,500 00	3,750 00	Gravel and tar mixed in place	4,300
Douglas	375 00	500 00	500 00	Maintenance	14,900
Dudley	4,500 00	2,250 00	2,250 00	Gravel and tar mixed in place	4,000
Dudley	525 00	700 00	700 00	Maintenance	21,410
Dudley	937 00	625 00	625 00	Bridge repairs	—
East Brookfield	1,650 00	1,100 00	1,100 00	Gravel and tar mixed in place	2,000
East Brookfield	10,600 00	5,200 00	5,300 00	Bridge and approaches	—
East Brookfield	600 00	800 00	800 00	Maintenance	21,535
Fitchburg	15,000 00	10,000 00	10,000 00	Bituminous macadam	3,460
Gardner	7,500 00	5,000 00	5,000 00	Bituminous macadam	3,450
Grafton	1,875 00	1,250 00	1,400 00	Bituminous macadam	923
Grafton	750 00	1,000 00	1,000 00	Maintenance	3,600
Hardwick	3,900 00	2,000 00	3,200 00	Gravel and tar mixed in place	3,550
Hardwick	975 00	1,300 00	1,300 00	Maintenance	49,143
Harvard	1,125 00	1,500 00	1,500 00	Maintenance	35,060
Harvard	5,062 00	1,500 00	5,250 00	Gravel and tar mixed in place	4,100
Holden	2,250 00	1,500 00	1,500 00	Gravel and tar mixed in place	6,187
Holden	750 00	1,000 00	1,000 00	Maintenance	41,698
Hubbardston	2,250 00	1,000 00	2,000 00	Gravel and tar mixed in place	2,100
Hubbardston	1,875 00	500 00	2,000 00	Gravel and tar mixed in place	1,175
Hubbardston	1,050 00	700 00	1,400 00	Maintenance	43,180
Leicester	5,250 00	2,625 00	3,500 00	Gravel and tar mixed in place	2,300
Leicester	637 00	850 00	850 00	Maintenance	38,450
Leominster	1,400 00	7,600 00	7,600 00	Standard reinforced cement con- crete and bituminous macadam	5,355
Leominster	3,600 00	2,400 00	2,400 00	Bituminous macadam	1,000
Lunenburg	3,000 00	1,500 00	2,500 00	Gravel and tar mixed in place	2,550
Lunenburg	1,125 00	1,000 00	1,500 00	Maintenance	33,431
Mendon	2,737 00	1,100 00	2,550 00	Gravel and tar mixed in place	1,760
Mendon	1,875 00	1,000 00	1,500 00	Grading	1,750
Mendon	750 00	1,000 00	1,000 00	Maintenance	39,684
Milford	15,000 00	10,000 00	10,000 00	Stone retread	700
Milford	300 00	400 00	400 00	Bituminous macadam	3,575
Milford	2,775 00	1,850 00	1,850 00	Maintenance	31,632
Milford	2,775 00	1,850 00	1,850 00	Bituminous macadam	1,840
Millbury	12,937 00	8,625 00	8,625 00	Bituminous concrete	3,450
Millbury	3,750 00	2,500 00	2,500 00	Gravel and tar mixed in place	2,268
Millbury	375 00	400 00	400 00	Maintenance	7,328
New Braintree	2,250 00	1,500 00	1,500 00	Gravel and tar mixed in place	1,850
New Braintree	750 00	500 00	1,000 00	Maintenance	41,636
Northborough	225 00	300 00	300 00	Maintenance	14,182
Northbridge	3,750 00	2,500 00	2,500 00	Stone and tar mixed in place	2,035
Northbridge	2,250 00	1,500 00	1,500 00	Gravel and tar mixed in place	4,300
Northbridge	375 00	500 00	500 00	Maintenance	33,650
North Brookfield	3,000 00	2,000 00	2,000 00	Gravel and tar mixed in place	2,500
North Brookfield	5,250 00	3,500 00	3,500 00	Bituminous macadam	965
North Brookfield	600 00	800 00	800 00	Maintenance	27,441
North Brookfield	375 00	250 00	250 00	Gravel and tar mixed in place	200
Oakham	3,750 00	2,000 00	3,000 00	Gravel and tar mixed in place	2,400
Oakham	975 00	1,000 00	1,300 00	Maintenance	42,506
Paxton	3,375 00	1,500 00	3,000 00	Gravel and tar mixed in place	2,300
Paxton	1,200 00	800 00	1,600 00	Maintenance	38,400
Petersham	1,125 00	1,500 00	1,500 00	Maintenance	40,069
Phillipston	750 00	1,000 00	1,000 00	Maintenance	47,280
Princeton	525 00	350 00	350 00	Gravel and tar mixed in place	2,425
Princeton	3,000 00	2,000 00	2,000 00	Gravel and tar mixed in place	1,900
Princeton	1,125 00	1,000 00	1,500 00	Maintenance	72,498
Princeton	1,500 00	1,000 00	1,000 00	Gravel and tar mixed in place	1,750
Royalston	937 00	500 00	750 00	Maintenance	18,800
Royalston	937 00	500 00	750 00	Grading	1,300
Royalston	2,700 00	1,300 00	2,300 00	Maintenance	51,960
Rutland	2,250 00	1,500 00	1,500 00	Gravel and tar mixed in place	2,600
Rutland	2,250 00	1,500 00	1,500 00	Grading	1,850
Rutland	1,500 00	1,500 00	2,000 00	Maintenance	57,440
Shrewsbury	1,125 00	1,500 00	1,500 00	Maintenance	34,727
Southborough	450 00	600 00	600 00	Maintenance	24,560
Southborough	2,250 00	1,000 00	2,000 00	Trap rock and tar mixed in place	2,100
Southbridge	15,000 00	10,000 00	10,000 00	Bituminous concrete	3,345
Southbridge	562 00	750 00	750 00	Maintenance	33,631
Spencer	3,750 00	2,500 00	2,500 00	Bituminous macadam	645
Spencer	750 00	1,000 00	1,000 00	Maintenance	44,800
Sterling	4,125 00	2,000 00	3,500 00	Gravel and tar mixed in place	2,950

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town	County		
Sterling	4,125 00	2,000 00	3,500 00	Gravel and tar mixed in place .	3,000
Sterling	2,175 00	2,000 00	2,900 00	Maintenance	73,237
Sturbridge	2,812 00	1,250 00	2,500 00	Gravel and tar mixed in place .	2,900
Sturbridge	281 00	250 00	375 00	Maintenance	15,224
Sutton	2,250 00	1,500 00	1,500 00	Gravel and tar mixed in place .	1,750
Sutton	2,250 00	1,500 00	1,500 00	Gravel and tar mixed in place .	1,700
Sutton	450 00	600 00	600 00	Maintenance	50,892
Templeton	4,500 00	3,000 00	3,000 00	Gravel and tar mixed in place .	5,200
Templeton	1,125 00	1,500 00	1,500 00	Maintenance	50,915
Upton	3,000 00	2,000 00	2,000 00	Gravel and tar mixed in place .	2,450
Upton	375 00	500 00	500 00	Maintenance	23,450
Uxbridge	5,250 00	4,000 00	4,000 00	Stone retread	8,100
Uxbridge	5,250 00	4,000 00	4,000 00	Trap rock and tar mixed in place	4,100
Uxbridge	1,125 00	1,500 00	1,500 00	Maintenance	31,960
Warren	375 00	500 00	500 00	Maintenance	17,160
Webster	6,000 00	4,000 00	4,000 00	Bituminous macadam	2,650
Webster	937 00	625 00	625 00	Bridge repairs	
Westborough	600 00	800 00	800 00	Maintenance	49,539
West Boylston	3,750 00	2,000 00	3,000 00	Gravel and tar mixed in place .	1,650
West Boylston	2,700 00	1,200 00	2,400 00	Gravel and tar mixed in place .	1,600
West Boylston	1,350 00	1,000 00	1,600 00	Maintenance	46,300
West Brookfield	2,250 00	1,000 00	2,000 00	Gravel and tar mixed in place .	1,900
West Brookfield	1,125 00	500 00	1,000 00	Gravel and tar mixed in place .	1,150
West Brookfield	300 00	400 00	400 00	Maintenance	42,470
Westminster	4,500 00	2,000 00	4,000 00	Gravel and tar mixed in place .	3,500
Westminster	1,500 00	1,000 00	2,000 00	Maintenance	55,880
Winchendon	525 00	700 00	700 00	Maintenance	19,528
Worcester	8,000 00	4,000 00	4,000 00	Bituminous macadam	1,397
Worcester	29,500 00	16,000 00	16,000 00	Bituminous macadam	4,026
				(Bituminous concrete	107

EXPENDITURES FOR CONSTRUCTION OF TOWN AND COUNTY WAYS

The expenditures during the year in various Counties were:—

Barnstable	\$98,265.22	Hampden	\$154,208.48
Berkshire	156,063.18	Hampshire	64,238.87
Bristol	72,718.09	Middlesex	401,942.49
Dukes	12,591.29	Norfolk	83,036.46
Essex	204,709.42	Plymouth	106,034.68
Franklin	128,398.72	Worcester	408,135.71
Total		\$1,890,342.61	

Details of the foregoing expenditures follow:—

Barnstable County.—Barnstable, \$12,066.28; Bourne, \$6,789.09; Brewster, \$947.30; Chatham, \$8,074.20; Falmouth, \$36,383.01; Harwich, \$11,265.77; Orleans, \$11,155.97; Wellfleet, \$11,583.60.

Berkshire County.—Adams, \$8,544.11; Alford, \$892.20; Becket, \$3,935.85; Cheshire, \$3,250.87; Clarksburg, \$2,539.18; Dalton, \$9,087.57; Egremont, \$3,023.51; Florida, \$6,511.04; Gt. Barrington, \$9,253.59; Hancock, \$7,514.77; Hinsdale, \$581.75; Lanesboro, \$4,335.18; Lee, \$8,519.78; Lenox, \$6,322.38; Monterey, \$1,076.01; Mt. Washington, \$1,025.70; New Ashford, \$507.94; New Marlboro, \$6,779.43; North Adams, \$14,202.20; Otis, \$2,682.02; Peru, \$6,095.45; Pittsfield, \$18,828.36; Richmond, \$1,262.01; Sandisfield, \$3,589.87; Savoy, \$2,031.82; Sheffield, \$1,813.91; Stockbridge, \$8,948.15; Tyringham, \$2,265.14; Washington, \$3,167.52; West Stockbridge, \$4,234.24; Williamstown, \$1,006.74; Windsor, \$2,234.89.

Bristol County.—Acushnet, \$507.95; Berkley, \$10,036.25; Dartmouth, \$40,401.34; Dighton, \$7,665.81; Danvers, \$5,398.48; Fairhaven, \$1,015.91; Freetown, \$1,015.91; Mansfield, \$5,098.39; Norton, \$257.37; Raynham, \$507.95; Rehoboth, \$812.73.

Dukes County.—Oak Bluffs, \$3,619.99; Tisbury, \$8,971.30.

Essex County.—Amesbury, \$5,823.64; Andover, \$17,917.22; Beverly, \$203.17; Boxford, \$3,586.51; Danvers, \$15.25; Essex, \$1,015.91; Georgetown, \$762.61; Groveland, \$2,030.11; Hamilton, \$8,372.40; Haverhill, \$30,007.43; Lawrence, \$18,692.12; Lynn, \$20,293.61; Lynnfield, \$4,591.87; Manchester, \$14,694.56; Marblehead, \$6,366.33; Merrimac, \$3,955.99; Methuen, \$10,162.48; Middleton, \$4,145.10; Newbury, \$8,939.23; North Andover, \$5,277.08; Peabody, \$18,440.22; Salisbury, \$750.28; Saugus, \$6,341.17; Swampscott, \$1,346.36; Topsfield, \$8,958.71; West Newbury, \$2,020.06.

Franklin County.—Ashfield, \$4,469.98; Charlemont, \$2,031.82; Colrain, \$2,031.82; Conway, \$2,031.82; Deerfield, \$3,047.73; Erving, \$2,031.82; Gill, \$5,418.18; Greenfield, \$11,024.78; Hawley, \$4,063.63; Heath, \$2,030.38; Leverett, \$2,031.82; Leyden, \$2,031.25; Monroe, \$2,597.14; Montague, \$1,524.16; New Salem, \$11,699.99; Northfield, \$36,908.77; Orange, \$3,047.72; Shelburne, \$3,047.73; Shutesbury, \$18,930.02; Sunderland, \$1,286.79; Warwick, \$2,031.82; Wendell, \$3,047.73; Whately, \$2,031.82.

Hampden County.—Agawam, \$10,139.74; Chester, \$1,837.69; Chicopee, \$4,799.73; East Longmeadow, \$2,913.85; Hampden, \$4,876.36; Holland, \$2,543.88; Holyoke, \$73,941.17; Longmeadow, \$6,398.07; Ludlow, \$7,540.85; Monson, \$575.68; Montgomery, \$1,133.85; Palmer, \$20,197.79; Southwick, \$5,079.54; Springfield, \$3,164.47; Tolland, \$3,805.84; West Springfield, \$2,022.38; Westfield, \$1,015.91; Wilbraham, \$2,221.68.

Hampshire County.—Amherst, \$12,759.69; Belchertown, \$9,558.14; Chesterfield, \$1,015.91; Cummington, \$4,062.65; Easthampton, \$10,338.54; Enfield, \$507.95; Goshen, \$2,031.82; Greenwich, \$1,015.91; Hadley, \$2,203.80; Northampton, \$11,296.97; Plainfield, \$2,031.82; Southampton, \$1,015.91; Ware, \$2,844.55; Westhampton, \$1,523.86; Williamsburg, \$2,031.35.

Middlesex County.—Acton, \$2,031.82; Arlington, \$5,079.54; Ashby, \$1,015.82; Ashland, \$1,270.57; Ayer, \$8,465.91; Bedford, \$807.32; Belmont, \$18,235.99; Carlisle, \$406.32; Chelmsford, \$3,046.78; Concord, \$19,915.31; Dunstable, \$1,523.86; Framingham, \$44,764.69; Holliston, \$913.98; Hopkinton, \$2,031.57; Hudson, \$15,315.24; Lexington, \$28,457.47; Lincoln, \$1,015.91; Lowell, \$5,221.15; Malden, \$57,117.50; Maynard, \$1,949.70; Medford, \$12,631.03; Melrose, \$5,196.97; Natick, \$1,826.90; Newton, \$39,038.47; Reading, \$6,095.45; Stoneham, \$5,017.24; Tyngsborough, \$2,539.77; Waltham, \$31,450.91; Watertown, \$10,750.85; Wayland, \$1,934.66; Westford, \$609.54; Wilmington, \$2,031.82; Winchester, \$34,054.84; Woburn, \$30,177.59.

Norfolk County.—Avon, \$1,178.87; Canton, \$1,219.09; Dedham, \$6,490.55; Foxborough, \$2,605.83; Franklin, \$6,114.96; Holbrook, \$1,083.64; Norfolk, \$862.85; Norwood, \$27,133.43; Randolph, \$1,046.81; Sharon, \$1,015.87; Stoughton, \$426.84; Walpole, \$14,703.59; Westwood, \$1,743.95; Weymouth, \$16,412.75; Wrentham, \$997.43.

Plymouth County.—Abington, \$6,097.19; Bridgewater, \$3,318.35; Brockton, \$22,113.22; Carver, \$3,047.73; East Bridgewater, \$1,065.38; Halifax, \$4,470.; Hull, \$22,862.44; Kingston, \$7,535.21; Marion, \$5,281.70; Marshfield, \$3,743.68; Mattapoisett, \$1,577.69; Pembroke, \$430.88; Plymouth, \$9,514.03; Rockland, \$8,455.79; West Bridgewater, \$5,638.35; Whitman, \$883.04.

Worcester County.—Ashburnham, \$1,423.64; Athol, \$4,685.90; Auburn, \$5,309.87; Barre, \$10,612.33; Berlin, \$5,010.22; Blackstone, \$9,480.86; Brookfield, \$662.19; Charlton, \$4,435.20; Clinton, \$1,114.75; Dana, \$142.96; Douglas, \$3,607.63; Dudley, \$4,921; East Brookfield, \$812.73; Fitchburg, \$18,704.58; Gardner, \$7,509.27; Grafton, \$4,121.14; Hardwick, \$213.23; Harvard, \$1,485.65; Holden, \$4,414.57; Hubbardston, \$8,556.60; Leicester, \$5,907.68; Leominster, \$13,939.76; Lunenburg, \$5,151.13; Mendon, \$2,321.65; Milford, \$9,940.59; Millbury, \$30,784.96; Millville, \$17,627.69; New Braintree, \$2,870.39; North Brookfield, \$3,073.15; Northbridge, \$5,174.59; Oakham, \$3,261.12; Paxton, \$4,271.68; Petersham, \$115,596.35; Phillipston, \$1,416.27; Princeton, \$1,483.80; Rutland, \$2,727.42; Shrewsbury, \$246.93; Southborough, \$425.30; Southbridge, \$14,043.03; Spencer, \$1,915.29; Sterling, \$7,078.99; Sutton, \$3,128.25; Upton, \$493.55; Uxbridge, \$18,983.94; Warren, \$10,152.79; West Boylston, \$5,053.04; West Brookfield, \$5,643.46; Westminster, \$1,552.62; Worcester, \$16,645.97.

REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS IN CERTAIN TOWNS

(Sections 26 to 29 and 31 of Chapter 81 of the General Laws, as appearing in the Tercentenary Edition thereof, as amended with reference to Section 26 by Chapter 366 of the Acts of 1934)

Counties and Towns	Miles of Road	State Allotment	Town
<i>Barnstable County</i>			
Brewster	40	\$6,000	\$5,000
Dennis	78	11,700	7,800
Eastham	42	6,300	3,150
Mashpee	27	4,050	2,025
Sandwich	67	10,050	6,700
Truro	30	4,500	3,750
Wellfleet	36	5,400	4,500
<i>Berkshire County</i>			
Alford	19	2,850	760
Becket	58	8,700	2,320
Cheshire	42	6,300	3,150
Clarksburg	14	2,100	2,100
Egremont	32	4,800	2,400
Florida	43	6,450	3,225
Hancock	30	4,500	1,200
Hinsdale	35	5,250	2,625
Lanesborough	42	6,300	3,150
Monterey	51	7,650	2,040
Mount Washington	20	3,000	500
New Ashford	11	1,650	275
New Marlborough	85	12,750	3,400
Otis	41	6,150	1,640
Peru	37	5,550	555
Richmond	32	4,800	2,400
Sandisfield	79	11,850	1,185
Savoy	56	8,400	840
Sheffield	77	11,550	3,850
Tyringham	25	3,750	1,250
Washington	51	7,650	765
West Stockbridge	36	5,400	3,600
Windsor	65	9,750	975
<i>Bristol County</i>			
Berkley	42	6,300	2,100
Freetown	47	7,050	3,525
Norton	57	8,550	5,700
Raynham	45	6,750	4,500
Rehoboth	109	16,350	8,175
Swansea	61	9,150	9,150
<i>Dukes County</i>			
Chilmark	14	\$2,100	\$1,750
West Tisbury	13	1,950	1,950
<i>Essex County</i>			
Boxford	53	7,950	3,975
Georgetown	35	5,250	4,375
Groveland	30	4,500	4,500
Merrimac	31	4,650	3,875
Middleton	30	4,500	4,500
Newbury	38	5,700	4,750
Rowley	31	4,650	3,875
West Newbury	37	5,550	3,700

Counties and Towns	Miles of Road	Allotment	
		State	Town
<i>Franklin County</i>			
Ashfield	80	\$12,000	\$3,200
Bernardston	40	6,000	3,000
Buckland	45	6,750	6,750
Charlemont	49	7,350	3,675
Colrain	84	12,600	4,200
Conway	72	10,800	2,880
Deerfield	75	11,250	9,375
Gill	34	5,100	2,550
Hawley	49	7,350	735
Heath	53	7,950	795
Leverett	38	5,700	1,520
Leyden	39	5,850	585
Monroe	18	2,700	2,700
New Salem	65	9,750	975
Northfield	66	9,900	4,950
Rowe	40	6,000	1,600
Shelburne	49	7,350	6,125
Shutesbury	38	5,700	950
Sunderland	34	5,100	2,550
Warwick	56	8,400	840
Wendell	48	7,200	2,400
Whately	40	6,000	3,000
<i>Hampden County</i>			
Blandford	75	11,250	1,875
Brimfield	60	9,000	2,400
Chester	68	10,200	3,400
Granville	73	10,950	5,475
Hampden	34	5,100	2,550
Holland	32	4,800	480
Monson	101	15,150	10,100
Montgomery	27	4,050	675
Southwick	50	7,500	5,000
Tolland	40	6,000	600
Wales	25	3,750	1,000
Wilbraham	43	6,450	6,450
<i>Hampshire County</i>			
Belchertown	109	16,350	4,360
Chesterfield	59	8,850	1,475
Cummington	49	7,350	1,225
Enfield	35	5,250	1,400
Goshen	28	4,200	700
Granby	48	7,200	2,400
Greenwich	39	5,850	1,560
Hadley	59	8,850	7,375
Hatfield	46	6,900	5,750
Huntington	41	6,150	3,075
Middlefield	41	6,150	615
Pelham	31	4,650	2,325
Plainfield	49	7,350	735
Prescott	39	5,850	585
Southampton	56	8,400	2,240
Westhampton	50	7,500	750
Williamsburg	44	6,600	3,300
Worthington	68	10,200	1,700
<i>Middlesex County</i>			
Acton	59	8,850	8,850
Ashby	56	8,400	2,800
Ashland	38	5,700	5,700

Counties and Towns	Miles of Road	Allotment	
		State	Town
Bedford	36	\$5,400	\$5,400
Boxborough	23	3,450	920
Burlington	35	5,250	5,250
Carlisle	42	6,300	3,150
Dracut	62	9,300	9,300
Dunstable	37	5,550	925
Holliston	50	7,500	7,500
Hopkinton	66	9,900	6,600
Littleton	42	6,300	6,300
North Reading	34	5,100	5,100
Pepperell	69	10,350	6,900
Sherborn	43	6,450	5,375
Shirley	46	6,900	4,600
Stow	43	6,450	3,225
Sudbury	64	9,600	6,400
Tewksbury	58	8,700	8,700
Townsend	70	10,500	7,000
Tyngsboro	40	6,000	4,000
Westford	85	12,750	10,625
<i>Norfolk County</i>			
Bellingham	44	6,600	6,600
Medfield	41	6,150	6,150
Medway	45	6,750	6,750
Millis	42	6,300	6,300
Norfolk	41	6,150	4,100
Plainville	32	4,800	4,000
<i>Plymouth County</i>			
Carver	67	\$10,050	\$6,700
Halifax	34	5,100	3,400
Hanson	36	5,400	5,400
Lakeville	43	6,450	3,225
Norwell	47	7,050	4,700
Pembroke	49	7,350	6,125
Plympton	30	4,500	2,250
Rochester	50	7,500	3,750
<i>Worcester County</i>			
Ashburnham	75	11,250	5,625
Barre	110	16,500	8,250
Berlin	39	5,850	2,925
Bolton	53	7,950	2,650
Boylston	40	6,000	3,000
Brookfield	37	5,550	3,700
Charlton	110	16,500	4,400
Dana	43	6,450	1,075
Douglas	70	10,500	5,250
Dudley	63	9,450	7,875
East Brookfield	19	2,850	2,375
Grafton	68	10,200	10,200
Hardwick	96	14,400	4,800
Harvard	56	8,400	5,600
Holden	77	11,550	7,700
Hubbardston	75	11,250	1,875
Lancaster	58	8,700	7,250
Leicester	66	9,900	8,250
Lunenburg	66	9,900	4,950
Mendon	36	5,400	3,600
Millville	16	2,400	2,400
New Braintree	49	7,350	1,225

Counties and Towns	Miles of Road	State	Allotment Town
North Brookfield	69	\$10,350	\$6,900
Northborough	47	7,050	5,875
Oakham	45	6,750	1,125
Oxford	66	9,900	8,250
Paxton	29	4,350	2,175
Petersham	70	10,500	3,500
Phillipston	41	6,150	1,025
Princeton	72	10,800	2,880
Royalston	67	10,050	1,675
Rutland	68	10,200	3,400
Southborough	46	6,900	6,900
Spencer	100	15,000	12,500
Sterling	73	10,950	5,475
Sturbridge	70	10,500	3,500
Sutton	84	12,600	4,200
Templeton	63	9,450	7,875
Upton	60	9,000	4,500
Warren	71	10,650	7,100
West Boylston	37	5,550	5,550
West Brookfield	53	7,950	3,975
Westminster	78	11,700	3,900

EXPENDITURES FOR REPAIR AND IMPROVEMENT OF PUBLIC WAYS

The expenditures during the year in various Counties were:—

Barnstable	\$55,315.26	Hampden	\$100,124.90
Berkshire	154,606.60	Hampshire	143,058.52
Bristol	58,537.28	Middlesex	178,044.10
Dukes	4,198.54	Norfolk	61,019.28
Essex	48,126.93	Plymouth	57,027.35
Franklin	177,983.51	Worcester	432,015.10
Total		\$1,470,057.37	

Details of the foregoing expenditures follow:—

Barnstable County.—Brewster, \$6,291.54; Dennis, \$14,269.47; Eastham, \$7,126.09; Mashpee, \$4,492.72; Sandwich, \$10,604.27; Truro, \$5,149.98; Wellfleet, \$7,381.19.

Berkshire County.—Alford, \$3,183.52; Becket, \$10,347.64; Cheshire, \$6,319.10; Clarksburg, \$2,295.61; Egremont, \$5,040.72; Florida, \$7,026.41; Hancock, \$4,553.94; Hinsdale, \$5,798.99; Lanesborough, \$6,762.53; Monterey, \$7,138.36; Mount Washington, \$3,502.50; New Ashford, \$1,405.55; New Marlborough, \$13,961.78; Otis, \$6,095.44; Peru, \$5,483.92; Richmond, \$5,321.99; Sandisfield, \$12,493.36; Savoy, \$8,734.30; Sheffield, \$11,837.11; Tyringham, \$4,151.12; Washington, \$6,969.43; West Stockbridge, \$5,707.66; Windsor, \$10,475.62.

Bristol County.—Berkley, \$6,810.43; Freetown, \$7,621.20; Norton, \$9,242.73; Raynham, \$7,296.89; Rehoboth, \$17,674.69; Swansea, \$9,891.34.

Dukes County.—Chilmark, \$2,150; West Tisbury, \$2,048.54.

Essex County.—Boxford, \$9,898.32; Georgetown, \$5,675.36; Groveland, \$4,923.70; Merrimac, \$5,026.75; Middleton, \$4,953.01; Newbury, \$5,904.20; Rowley, \$5,629.96; West Newbury, \$6,115.63.

Franklin County.—Ashfield, \$12,945.22; Bernardston, \$6,485.42; Buckland, \$7,242.81; Charlemont, \$7,918.48; Colrain, \$13,323.58; Conway, \$12,729.02; Deerfield, \$11,945.28; Gill, \$5,269.98; Hawley, \$8,188.73; Heath, \$8,594.11; Leverett, \$5,891.56; Leyden, \$6,351; Monroe, \$2,943.14; New Salem, \$9,675.13; Northfield, \$10,512.22; Rowe, \$6,486.12; Shelburne, \$8,105.19; Shutesbury, \$6,107.77; Sunderland, \$4,513.26; Warwick, \$8,945.45; Wendell, \$7,323.92; Whately, \$6,486.12.

Hampden County.—Blandford, \$12,134.58; Brimfield, \$9,127.97; Chester, \$7,892.80; Granville, \$11,836.77; Hampden, \$5,188.90; Holland, \$6,462.27; Montgomery, \$3,607.86; Monson, \$17,793.85; Southwick, \$8,188.73; Tolland, \$6,833.06; Wales, \$4,058.50; Wilbraham, \$6,999.61.

Hampshire County.—Belchertown, \$18,026.02; Chesterfield, \$9,567.03; Cummington, \$7,945.47; Enfield, \$5,026.75; Goshen, \$4,540.29; Granby, \$7,782.62; Greenwich, \$6,459.10; Hadley, \$9,567.03; Hatfield, \$7,540.12; Huntington, \$6,280.99; Middlefield, \$7,132.96; Pelham, \$5,125.32; Plainfield, \$7,296.89; Prescott, \$6,242.89; Southampton, \$8,837.34; Westhampton, \$8,107.66; Williamsburg, \$7,134.53; Worthington, \$10,445.51.

Middlesex County.—Acton, \$9,567.03; Ashby, \$9,080.57; Ashland, \$6,161.82; Bedford, \$5,837.51; Boxborough, \$3,729.52; Burlington, \$5,675.36; Carlisle, \$6,810.43; Dracut, \$10,053.49; Dunstable, \$5,999.66; Holliston, \$8,107.66; Hopkinton, \$10,702.11; Littleton, \$6,810.43; North Reading, \$5,513.21; Pepperell, \$11,188.56; Sherborn, \$6,972.58; Shirley, \$7,459.04; Stow, \$6,972.58; Sudbury, \$10,377.80; Tewksbury, \$9,404.88; Townsend, \$11,350.72; Tyngsborough, \$6,486.13; Westford, \$13,783.01.

Norfolk County.—Bellingham, \$11,809.75; Medfield, \$9,416.82; Medway, \$11,679.13; Millis, \$10,989.84; Norfolk, \$9,652.58; Plainville, \$7,471.16.

Plymouth County.—Carver, \$11,192.97; Halifax, \$6,093.42; Hanson, \$5,467.67; Lakeville, \$6,972.56; Norwell, \$6,959.03; Pembroke, \$7,182.13; Plympton, \$5,051.91; Rochester, \$8,107.66.

Worcester County.—Ashburnham, \$11,989.65; Barre, \$18,335.90; Berlin, \$6,717.18; Bolton, \$10,494.42; Boylston, \$5,884.68; Brookfield, \$6,083.01; Charlton, \$18,645.82; Dana, \$6,972.58; Douglas, \$11,360.80; Dudley, \$11,463.72; East Brookfield, \$3,500.79; Grafton, \$11,024.59; Hardwick, \$17,833.67; Harvard, \$9,080.57; Holden, \$11,312.49; Hubbardston, \$12,409.75; Lancaster, \$8,766.02; Leicester, \$10,288.22; Lunenburg, \$10,286.29; Mendon, \$5,701.44; Millville, \$2,560; New Braintree, \$7,728.15; North Brookfield, \$13,711.43; Northborough, \$6,953.64; Oakham, \$8,689.75; Oxford, \$10,766.75; Paxton, \$4,145.55; Petersham, \$10,835.50; Phillipston, \$7,633.81; Princeton, \$9,994.62; Royalston, \$10,864.26; Rutland, \$11,232.65; Southborough, \$7,433.33; Spencer, \$18,059.42; Sterling, \$12,483.80; Sturbridge, \$11,244.35; Sutton, \$12,916.51; Templeton, \$8,765.80; Upton, \$10,084.47; Warren, \$11,546.47; West Boylston, \$5,222.24; West Brookfield, \$8,124.22; Westminster, \$12,866.79.

THE REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW (Sections 29-33, Chapter 93, General Laws, as amended)

In accordance with the provisions of sections 29 to 33 inclusive, chapter 93, General Laws, as amended by chapters 85, 237, 334 and 490, Acts of 1924, providing for the control of billboards and other advertising devices on public ways or on private property within public view of any highway, public park or reservation, the Department adopted on Jan. 24, 1924, certain new rules and regulations, superseding all former issues; and these have continued in force during the present year.

Applications, Licenses and Permits.—Licenses were granted to 22 individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 909 applications received for permits for the erection of advertising signs, 841 permits were granted for the year, while 2,500 applications, mostly injunction ones, are being held for definite action by this Department. In addition, over 200 individual advertisers were granted permits mainly consisting of a sole application. The greater part of these individual applications were obtained at the information desk maintained in the office of this Division for the purpose of educating and explaining the various provisions of the law.

Of 3,100 renewal applications sent to those whose permits were to expire June 30, 1937, 2,892 were returned to the Department requesting renewal; and on account of the advertisers failing to renew, 93 permits were cancelled. The number of renewal applications approved was 2,791. The total number of permits in force November 30, 1936 was 3,402.

Receipts and Expenditures.—The total receipts for the year ending November 30, 1936, were \$26,023.17 and the expenditures were \$22,535.15.

The Removal of Signs.—The "Sign Patrol" consisting of small trucks completely equipped for the work, have removed 70,000 signs during the year in addition to 6,000 removed by other agents of the Department, under authority of section 30A, Chapter 93, General Laws, from within the highways and from private property.

Hearings.—Hearings were given to officials of Athol, Hull, Lexington, Milton, Walpole, Brookline, Medford, Stoneham, Braintree, Weymouth.

REGISTRY OF MOTOR VEHICLES

The 1936 statistics continue to show increases in the various classes of applications handled and it should be noted that these figures exceed the total for 1929, making the figures for this year the high figure for all times thus far in the history of the Registry. Particularly noticeable in the increased registrations throughout the year is the number of reissues which, for the most part, means a new car registered for each reissue. As the number of applications handled increases, there is a corresponding increase in inquiries by telephone, letter, and at our counters with regard to the information contained in the records.

The inspection work and other activities of the inspectors, all tending towards highway safety, followed the same lines in 1936 that were inaugurated in 1935. The work of the motor vehicle men was greatly aided by the continued hearty co-operation of the police, both state and local. The various highway safety committees continued their work in a co-operative manner.

The teletype installations, linking the branch offices with the Boston office, were extended by the additional installation of machines in the Framingham and Fitchburg offices.

A new branch office was opened in Holyoke on October 16th.

A few of the outstanding figures for the year, together with a comparison with the previous year, follow:—

	1935	1936
Motor vehicle certificates of registration issued	968,553	1,034,803
Compulsory insurance cancellation notices received	79,401	69,126
Licenses to operate issued	1,077,880	1,128,516
Examinations of applicants for licenses	82,136	98,997
Licenses and registrations revoked and suspended	52,317	52,705
Licenses revoked for driving under influence of liquor	6,264	6,486
Total number of applications handled	2,125,898	2,253,405
Gross receipts from fees	\$6,310,424.28	\$6,765,751.86

REGISTRATIONS OF PASSENGER CARS, COMMERCIAL VEHICLES, AND MOTOR CYCLES

The following registration figures show a 7.27% increase in passenger registrations and a 3.7% increase in commercial registrations over the previous year, while the motor cycle registrations showed a decrease of 4.29% for the same period.

	1905	1915	1925	1935	1936
Passenger cars	4,889	90,580	663,858	852,934	915,010
Commercial vehicles	—	12,053	100,480	114,244	118,477
Motor cycles	553	9,520	10,333	1,375	1,316
Totals	5,442	112,153	774,671	968,553	1,034,803

EXAMINATIONS FOR LICENSES

The system of examining new operators was not changed in any respect during the year 1936. For the first time for a number of years there was a sizeable increase in the number of persons examined, this increase being in proportion to the number of increased registrations and the general increase in applications handled at the Registry. The following figures show the work accomplished at the fifty-five examining points in the State.

	1935	1936
Operators passed	74,598	91,065 ¹
Operators unfit	7,058	7,727 ²
Restriction removal, passed	1,244	848
Restriction removal, unfit	125	119
"Competency," passed	212	544
"Competency," unfit	23	39
Total examinations	83,260	100,342

¹ This increase is partly due to the special "competency" test which operators over 65 years of age were required to pass before their licenses were renewed, and included in this item are 4,731 of these tests.

² See previous foot-note. This figure includes 106 "competency 65" cases.

BRANCH OFFICES

A new office was opened in Holyoke on October 16, and the installation of the teletype machine was extended to the Fitchburg and Framingham offices. This makes nineteen branch offices of the Registry, excluding an office at Oak Bluffs, on Martha's Vineyard. Here the inspector maintains an office, or at least provides facilities offered at other branch offices of the Registry, and periodically travels to Nantucket Island for the purpose of extending Registry branch office facilities to the public there. Of the nineteen branch offices, twelve are equipped with teletype and at these teletype-equipped branches the officer in charge, together with his force of inspectors, examiners and clerks, is able to render to the public in the vicinity practically every service that is rendered at the main office in Boston. The few smaller branches not equipped with teletype render a slightly limited service in their vicinity but, by means of telephone to the nearest teletype-equipped branch, are in a position to offer practically equivalent service to the public in their area.

The following figures, prepared in approximate round numbers rather than from an actual count or from detailed records, give a fairly accurate idea of the manner and amount of the work handled by the Registry and the proportion in which it is distributed among the various branch offices and the central office at Boston.

APPROXIMATE DISTRIBUTION OF REGISTRATIONS, LICENSES, ETC.

	Regis- trations	First Licenses	License Renewals	Miscel- laneous	Totals
Boston:					
Counter . . .	192,000	—	174,000	92,000	458,000
Mail . . .	166,000	—	401,000	13,000	580,000
Examination . . .	—	22,000	—	3,000	25,000
Pittsfield . . .	23,000	3,500	20,000	8,000	54,500
Springfield . . .	53,000	7,500	60,000	24,000	144,500
Greenfield . . .	12,000	1,500	11,000	5,000	29,500
Northampton . . .	12,000	2,000	12,000	5,000	31,000
Worcester . . .	54,000	7,500	53,000	23,000	137,500
Fitchburg . . .	20,000	3,000	18,000	8,000	49,000
Framingham . . .	21,000	3,000	17,000	9,000	50,000
Lawrence . . .	21,000	3,000	26,000	7,000	57,000
Lowell . . .	22,000	4,000	24,000	7,500	57,500
Fall River . . .	24,000	5,000	24,000	9,000	62,000
New Bedford . . .	22,000	3,000	28,000	9,000	62,000
Lynn . . .	45,000	7,000	47,000	18,000	117,000
Quincy . . .	32,000	6,500	38,000	14,000	90,500
Brockton . . .	39,000	3,500	35,000	17,000	94,500
Hyannis* . . .	13,000	2,000	8,000	4,500	27,500
Haverhill . . .	13,000	2,300	13,000	5,000	33,300
Holyoke . . .	4,000	200	1,000	500	5,700
Malden . . .	19,000	2,500	14,000	7,000	42,500
Waltham . . .	18,000	3,000	13,000	7,000	41,000
	825,000 ¹	92,000	1,037,000	295,500 ²	2,249,500

*Includes Oak Bluffs and Nantucket.

¹ Does not include reissues (see Miscellaneous).

² This figure includes approximately 216,000 number plate reissues.

COMPULSORY MOTOR VEHICLE LIABILITY INSURANCE

The following figures show the volume of papers received and notices mailed in connection with the carrying out of the law regarding compulsory motor vehicle liability insurance:

Causes for Cancellation of Policies:	1935	1936
For non-payment of premiums	61,413	55,978
For other reasons	17,988	13,148
Total	79,401	69,126

Origin of requests for Cancellation of Policies:

Insurance companies	49,204	46,660
Finance companies	30,197	22,466
Total	79,401	69,126

Disposition of applications for cancellations:

Replacement certificates, adjusting cancellations	6,524	5,803
Reinstatements, adjusting cancellations	43,394	38,834
Sets of plates returned before effective date of cancellation	5,080	4,495
Revocations	24,403	19,994
Total	79,401	69,126

Return of Plates:

Returned promptly after revocation	13,503	11,164
By Police	6,510	4,950
Not returned	4,390	3,880
Total revocations	24,403	19,994

PROPERTY DAMAGE

Under provisions of Section 22A of Chapter 90, General Laws, the Registrar may, upon receipt of evidence satisfactory to him, suspend the license of any operator who has failed to satisfy a judgment rendered against him after sixty days in any case in which such operator is the defendant in an action brought to recover damages for injuries to property arising out of the use, operation or maintenance on the ways of the Commonwealth of a motor vehicle or trailer.

The following figures indicate the number of cases in which successful plaintiffs availed themselves of the additional facilities provided in the law for recovering damages and the action taken thereon.

	1935	1936
Complaints received	560	600
Releases received, no action being necessary	141	158
Licenses or right to operate suspended	419	442
Licenses or right to operate reinstated after suspension	206	255

AIRCRAFT

The first fiscal report of the Aviation Section since the operation of the new Uniform Aeronautical Code shows an increase in pilots operating in the Commonwealth. This is due partly to the requirement that student pilots as well as private and commercial flyers must be registered.

All resident airmen and owners and or operators of all aircraft are required to register their federal licenses with the Aviation Section. Applications are required and certificates are issued without the payment of fee.

The slight drop in the total number of flying accidents and the same number of ground accidents as the previous year is very encouraging. The increase in fatal and personal injury accidents is to be expected, however, considering the large increase in flying personnel. Two of the three fatal accidents were caused through fault of the pilots and one through inexperience. The personal injuries were all of a very minor nature. We believe these figures show that the new modern aircraft with its facilities has become a safe means of travel.

Air traffic rules and regulations for aircraft and airports have been brought up to date. A rigid enforcement of these rules and a close supervision of all airports, aircraft and airmen is maintained at all times.

The air-marking program has shown great progress with 176 new air-markers now in the Commonwealth as compared with 11 of the previous year. There is no doubt that these markers will prevent a great many future accidents.

The non-paid board of aeronautical experts required by law has been active in co-ordinating aviation interests and establishing policies.

The following figures summarize the work of the Aviation Section:

	1935	1936
Pilots registered	257	938
Aircraft registered	235	216
Duplicates issued	2	4
Fees received	\$142	0 ¹
Suspensions of pilots' and aircraft rights	20	21
Aircraft grounded	61	66
Reinstatements of rights and groundings	58	40
Court prosecutions	2	0
Regulations promulgated	0	2
Surveys of fields	25	22
Plans of buildings drawn for airmarking	17	178
Airmarkers completed under State promotion	11	176
Reports made by aircraft inspectors	1,051	2,086
Airplane accidents	48	46
	1935	1936
Fatal accidents	0	3
Personal injury accidents	8	9
No injury accidents	40	34
Persons killed in airplane accidents	0	4
Persons injured in airplane accidents	16	17
Ground accidents	7	7
Fatal accidents	1	0
Personal injury accidents	2	1
No injury accidents	4	5
Unknown accidents	0	1
Persons killed in ground accidents	1	0
Persons injured in ground accidents	2	1

¹ No fees paid to State for registration with State of federal licenses for aircraft and airmen.

INSPECTION OF MOTOR VEHICLE EQUIPMENT

In accordance with rules and regulations of the Registrar of Motor Vehicles, made under authority of General Laws, Chapter 90, Section 7A, two inspections of all motor vehicles registered and operated in the Commonwealth were conducted at Official Inspection Stations designated by the Registrar.

The great majority of the inspection stations have now been operating under the supervision of the Equipment Section for the past six years, and the annual improvement in the manner in which the inspections were conducted was noticeable. The work was, in the main, conducted honestly and efficiently, with fewer complaints than during any previous inspection.

Approximately 700,000 pleasure cars, trucks, trailers and buses were inspected during the May inspection period, and 800,000 during the September inspection. The results may be summarized as follows:

	May Per Cent	September Per Cent
O. K.	40	30
Foot Brake	20	17
Emergency Brake	12	11
Lights	43	58
Horn	3	3
Muffler	1.4	1.2
Steering Gear	3	2.6
Windshield Cleaner	3.4	3.2
Number Plates	2	.9

Immediately after each inspection period, inspectors of this Department, with the co-operation of state and local police, stopped all cars observed being operated which did not display the official windshield sticker. As a result of this check-up, 1,940 cars were reported as not having been inspected during the May period, and 1,894 during the September period. Disposition of these was made as follows:

Warning notices mailed	2,939
Complaints filed	654
Registrations suspended	251

Because of the semi-official nature of their work, inspection stations were held to a very high standard of honesty and efficiency and were cancelled or suspended upon even slight, though certain, evidence that they were not conducting inspections properly. During the May inspection, 52 stations were cancelled or suspended, and during the September inspection, 39.

School Bus Inspections

As required by the School Bus Act, Chapter 271 of the Acts of 1932, the Equipment Section supervised the inspection of all school buses operated in Massachusetts under contract with cities or towns, or owned by cities or towns. These inspections were made at Official Inspection Stations on instructions issued by the Department, and the results of their inspections were reported to the Equipment Section which then passed upon the approval or disapproval of each bus so examined. Inspections were held during the first full week of January, March, May, September and November. In each case, about 921 buses were submitted for inspection. The improvement in the general condition of school buses used throughout the state and their safety condition noted in previous reports was continued during the present year. Many new buses were put in operation so that, at the present time, there are in operation very few of the old buses which were being used previous to the enactment of the School Bus Act.

Brakes, Lights and Overloads

The Registrar's policy, referred to in the last report, of reducing investigating and examining work to a minimum so as to release the services of inspectors for the more important work of preventing accidents on the highway rather than investigating them when they have occurred, was continued. The full-time service of approximately 60 men was used for enforcement and equipment work. This enforcement on the road, directed particularly to dangerous operation and defective motor vehicle equipment, especially brakes, in conjunction with the two equipment inspections held during the year, was undoubtedly effective in bringing about a reduction in the accident rate. While there was an increase of 3% in the number of fatalities, the number of cars registered per person killed increased from 1,205, in 1935, to 1,266, in 1936. The number of persons injured dropped from 48,421, in 1935, to 45,462, in 1936, a decrease of 15%.

In addition to their duties in connection with the periodic inspection of motor vehicles and school buses, including the supervision of the work of over 2,000 Official Inspection Stations, the inspectors assigned to the Equipment Section did considerable enforcement and equipment work which may be summarized as follows: Equipment inspectors submitted 6,000 blue card complaints of improper and dangerous operation which were referred to the Registrar for action. They also submitted 11,720 green card complaints of defective equipment. Disposition of these cases was as follows:

Number of suspensions for defective brakes	3,662
" " " " defective lights	603
" " " " miscellaneous defective equipment	594
Notices to correct defective equipment and to report	1,606
Notices to replace defective windshield and to report	1,042
Complaint cards on defective equipment filed	334

In addition to reporting on blue and green cards, Equipment inspectors issued 29,053 tags for defective brakes, and 56,976 tags for defective lights. State and

local police issued 56,807 tags for defective lighting equipment, in co-operation with this Department.

Headlamps, Tail Lamps and Reflex Reflectors

One new headlamp was approved during the present year; also, 5 tail lamps and 5 reflex reflectors.

Directional Signals

During the present year, Rules and Regulations of the Department of Public Works became effective requiring directional signals on certain commercial motor vehicles operated on state highways. Thirty-five directional signal systems were examined and tested by this Department, of which 11 were approved.

The authority of the Department to promulgate such regulations was questioned by many of the commercial vehicle operators affected, and an action was begun which resulted in the legal questions involved being brought to the attention of the full bench of the Supreme Court which now has the whole question under advisement.

MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS

Deaths caused by motor vehicles in 1936 numbered 817, an increase of 22 or 2.7% as compared with the record of the previous year. A comparative table of classified fatalities, injuries and collisions in the year 1935 and 1936 is as follows:

Motor Vehicle Accidents to Persons

	Persons Killed		Persons Injured	
	1935	1936	1935	1936
Pedestrians by autos	471	462	14,306	12,165
Pedestrians by motorcycles	0	0	22	31
Pedestrians near street cars	3	1	49	11
Occupants of autos	265	302	31,750	31,196
Occupants of autos at R. R. crossings	14	13	36	19
Occupants of motorcycles	12	6	161	180
Bicycle Riders	7	24	981	1,098
Occupants horse-drawn vehicles	3	0	148	104
Coasters on sleds	17	7	837	540
Coasters on wheels	3	2	131	118
Totals	795	817	48,421	45,462
	Children Killed		Children Injured	
	1935	1936	1935	1936
Boys	91	94	6,597	5,585
Girls	36	33	3,468	3,090
Totals	127	127	10,065	8,675

Number of Collisions

	1935	1936
Collision with pedestrian	14,619	13,511
Collision with automobile	20,143	20,215
Collision with horse-drawn vehicle	197	153
Collision with railroad train	29	27
Collision with street car	305	279
Collision with fixed object	1,961	1,860
Collision with bicycle	997	1,350
Non-Collision (overturn)	754	650
Collision with motorcycle	187	199
Collision with sled	740	553
Collision with animal	70	76
Coaster on wheels	136	137
Totals	40,138	39,010

80		P. D. 54
In the daytime	24,081	23,533
After dark	16,057	15,477
Totals	40,138	39,010

ACCIDENT REPORT LETTERS

As provided by Section 26, chapter 90, General Laws, every operator of a motor vehicle in any manner involved in an accident in which any person is killed or injured is required to report in writing to the Registrar. The number of these formal accident reports received from operators in 1936 was 41,605 as compared with 44,624 received in 1935. Under the requirements of section 29, chapter 90, General Laws, 17,498 similar reports of accidents were received from police departments throughout the State in 1936 as against 18,304 received in 1935. In addition, in connection with this reporting of accidents by operators during the year 1936, there were received 9,189 letters and complaints reporting faulty operating, as compared with 10,369 such letters in 1935.

COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, LICENSES, DEATHS, INJURIES, REVOCATIONS AND SUSPENSIONS

Year	Automobiles Registered	Motor- Cycles Registered	Total Regis- trations	Number of Persons Killed	Number of Persons Injured	Licenses Issued	Total Sus- pensions and Revo- cations	For Operat- ing Under Influence of Liquor
1910	31,360	3,358	34,718	77	963	41,259	283	22
1911	38,907	3,658	42,565	110	1,248	51,950	360	14
1912	50,132	5,034	55,166	142	1,962	66,645	546	56
1913	62,660	7,127	69,787	188	2,923	81,034	608	87
1914	77,246	8,161	85,407	229	4,010	99,532	8,580	131
1915	102,633	9,520	112,153	294	6,197	133,935	1,153	202
1916	136,809	10,713	147,522	315	9,131	171,596	1,396	320
1917	174,274	11,065	185,339	438	7,282	214,229	1,831	485
1918	193,497	12,862	206,359	499	8,598	235,140	2,343	553
1919	247,183	13,698	260,881	582	16,287	297,968	2,156	554
1920	304,538	15,142	319,680	481	21,182	261,539	2,944	888
1921	360,731	12,058	372,790	544	11,487	380,519	4,899	1,608
1922	449,838	11,675	461,513	522	15,277	444,173	8,369	2,460
1923	566,150	11,733	577,883	578	16,217	536,819	11,613	3,333
1924	672,315	10,778	683,093	709	19,579	620,439	14,154	4,395
1925	764,338	10,333	774,671	755	25,736	698,378	16,249	4,654
1926	826,224	9,215	835,439	705	25,351	763,951	18,705	4,863
1927	819,703	7,245	826,948	693	31,721	814,094	31,252	4,983
1928	883,595	6,656	890,251	715	42,201	870,160	40,814	5,071
1929	1,018,904	6,168	1,025,072	777	46,111	944,338	53,133	5,381
1930	1,008,476	4,642	1,013,118	795	44,279	982,795	52,954	5,052
1931	1,006,808	3,068	1,009,876	793	48,837	1,024,304	63,841	5,535
1932	921,909	1,661	923,570	768	47,658	1,014,635	73,511	4,824
1933	930,493	1,023	931,516	769	48,249	1,022,662	78,431	4,274
1934	944,713	1,375	945,488	921	53,055	1,053,527	52,505	5,717
1935	967,178	1,375	968,553	795	48,421	1,077,880	52,317	6,264
1936	1,033,487	1,316	1,034,803	817	45,462	1,128,516	52,705	6,486

INVESTIGATIONS AND PROSECUTIONS BY INSPECTORS

Investigations were made under the direction of the Chief Inspector relative to fatal and non-fatal accidents, violations of the laws concerning brakes and headlights, inspection of garages, miscellaneous complaints, and the prosecution of motorists in court. The table below shows the wide range of these activities of the inspectors.

	1935	1936
Accidents, fatal	778	782
Accidents, non-fatal	5,279	1,525
General reputation	6,246	1,598
Miscellaneous	13,386	6,389
Totals	25,689	10,294
Complaints filed	15,384	28,649
Garages	13,829	8,274
Headlights	51,872	93,290
Prosecutions	839	778
Amount of fines	\$26,870	\$25,687

Revocations and Suspensions

	1935	1936
Licenses suspended	12,646	15,314
Licenses revoked	4,452	3,707
Rights suspended or revoked	5,587	5,788
Certificates suspended	2,966	5,660
Certificates revoked	24,561	20,126
Certificates and licenses suspended	26	42
Certificates and licenses revoked	1,849	1,369
Certificates revoked and rights suspended	124	97
Rights in Massachusetts suspended	106	602
Totals	52,317	52,705
Resulting from investigations	13,171	14,498
Resulting from court convictions	12,394	12,852
Resulting from police complaints	1,969	3,033
Resulting from judges' complaints	3	3
Resulting from State Police complaints	377	2,333
Resulting from Insurance cancellations	24,403	19,986
Totals	52,317	52,705

Character of Offenses

	1935	1936
Reckless and endangering life	1,774	1,590
Liquor convictions	4,917	4,648
Going away after accidents	385	500
Without authority	596	545
Racing	0	6
Improper person	5,394	5,181
Improper person, liquor	1,347	1,838
Improper operation	5,858	4,028
Two overspeeds	111	531
Three overspeeds	3	13
Insurance cancellations	24,403	19,986
Insurance convictions	352	380
Improper equipment, miscellaneous	513	594
Improper equipment, lights	357	603
Improper equipment, brakes	1,000	3,662
Failure to display stickers	0	0
Fatal accidents	743	781
Property damage cases	388	442
Other offenses	193	95
New parking violations	3,447	3,717
Overloading trucks	19	0
Sixty milers	495	959
Fifty milers	0	2,413
Several minor complaints	22	186
Pedestrian failure	0	7
Totals	52,317	52,705
Court recommendations adopted:		
Reckless and endangering	19	45
Going away after accidents	2	3
Liquor	0	1
Allowing improper person to operate	1	0
Insurance convictions	0	1
Totals	22	50
Persons whose licenses were suspended or revoked and who had to pass examination in order to have them returned	4,620	5,086

ANALYSIS OF COURT ABSTRACTS RECEIVED

	1935	1936
Number of courts forwarding abstracts	95	95
Total abstracts received	51,695	54,311
Number of abstracts recording convictions	29,899	35,575

Offenses

(Analysis of convictions, not including appeals)

	1935	1936
Overspeeding	9,399	11,470
Reckless driving	43	8
Operating under influence of liquor	3,940	4,314
Using auto without authority	762	753
Endangering lives	1,976	2,381
Not stopping after causing injury	761	842
Without license	2,566	2,555
Without registration certificate	417	475
Unregistered vehicle	374	481
Improper display or no register number	198	123
Refusing to stop on signal	394	259
Unlighted lamps	287	287
Not signalling	3	0
Dazzling lights	7	0
Operating within 8 feet of street car	67	59
Violation of Metropolitan Park rules	94	112
Operating after suspension or revocation of license	496	596
Larceny	183	108
Manslaughter	4	0
Miscellaneous	799	1,347
Lenses not approved	0	4
No reflector	6	0
Racing	1	6
Operating after registration certificates revoked	3	7
No rear light	57	41
Not displaying lights	296	88
Passing red light	347	510
Improper lights	80	91
Brakes not as required by law	263	198
Violation of insurance law	401	484
Not slowing down approaching pedestrian	39	39
Not slowing down at intersecting way	3,859	6,593
Violation of law of road	1,657	1,198
Perjury—Making false statements on license application, * falsely impersonating or conspiring to obtain a license	22	12
Loaning a license to another	11	11
Allowing intoxicated person to operate	10	9
No windshield cleaner	1	0
Attempted larceny	13	29
Allowing improper person to operate	73	85
Totals	29,899	35,575

USED CAR SECTION

(Motor Vehicle Identification)

The following is a résumé of the work accomplished by the Used Car Section which indexes, under engine numbers, all motor vehicles registered and reported stolen, and checks reports of sales of used cars against the stolen-vehicle records. Dealers' and repairmen's plates and registration certificates are issued by this section.

The work of the section is summarized in the following tables:—

<i>Dealers</i>		
	1935	1936
Total number of first class dealers reporting	1,187	1,225
Total number of second and third class dealers reporting	559	615
Total number making reports to this office	1,746	1,840
<i>Reports</i>		
Approximate number of notices of intended sales received daily	302	280
Approximate number of dealers' reports received daily	1,107	1,382
<i>Motor Vehicles Stolen</i>		
Number stolen in Boston	4,479	3,297
Number stolen in Massachusetts (including Boston)	6,022	7,191
Number reported stolen from various sources throughout the country, including Massachusetts	20,245	21,179
Number of motor vehicles recovered through information furnished by this office	283	290
<i>Engine and Serial Numbers</i>		
Engine numbers assigned to cars	13	5
Certificates issued authorizing the replacement of engine numbers	379	338
Certificates issued authorizing the replacement of serial numbers	167	191
Certificates issued authorizing the replacement of both engine and serial numbers	20	6
Total number of authorization certificates issued	566	535

EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS

The department was represented at each of the two meetings held during the year.

The first meeting was held in Philadelphia, Pa., on May 11, 12 and 13, and the second, in Burlington, Vt., on October 1 and 2. Prepared studies were presented by suitable speakers and appropriate action taken on such matters as highway lighting, highway safety in general, headlighting, brakes, house trailers, directional signals, enforcement, compulsory insurance and financial responsibility, speed limits, examination of drivers, safety education, accident statistics, federal control, motor vehicle inspection, highway patrols and other incidental and related matters.

The action of the Eastern Conference places no legal restriction, of course, on the acts of the state administrator. The information and experiences made available to the members and the general discussion and exchange of ideas are, however, of great benefit to each member state. Reciprocal relations, too, are improved by the better understanding of the various problems in the different states.

ANALYSIS OF RECEIPTS

The fees received for the year 1936, together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table:

<i>Certificates of Registration:</i>		
Passenger cars (including taxicabs)	910,196	\$2,573,889 98
Commercial cars	118,477	1,485,111 45
Busses	4,814	121,189 60
Trailers	10,405	19,468 50
Motor cycles	1,316	1,770 00
Manufacturers or Dealers (including repairers)	2,741	8,223 00
Manufacturers or Dealers additional cars (including repairers)	19,668	\$58,993 00

Licenses to operate:

Original licenses	91,190	182,380 00
Renewal licenses	1,037,326	2,074,441 00
Examinations	75,249	\$150,498 00
Re-examinations	23,748	23,748 00
Total examinations	98,997	174,246 00

Copies of certificates and licenses furnished	37,746	37,742 75
Duplicate number plates furnished	11,719	11,718 75
Miscellaneous receipts, process fees, etc.		16,577 83

Total amount of fees		\$6,765,751 86
Motor Vehicle fees rebated (deducted)		70,101 31

Net fees		\$6,695,650 55
Court fines received by the Treasurer and Receiver-General ¹		12,079 74

Total receipts (not including gasoline tax²) credited Highway Fund Account, 1936

\$6,707,730 29

¹ Beginning January 1, 1935, due to an amendment of the law (Acts of 1934, Chap. 364) the motor vehicle fines are turned over directly to the various cities and towns.

² Receipts from the gasoline tax are credited to the Highway Fund but are collected through the office of the Commissioner of Corporations and Taxation.

EXPENSES OF THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles for the year 1936 was \$1,495,985.41 which was 22.3% of the net fees collected. This cost, deducted from the receipts for the year, left the sum of \$5,213,293.78 available for legislative appropriation for highway work.

ANALYSIS OF EXPENDITURES FOR THE FISCAL YEAR 1936

Payrolls

Personal Services:

Regular payroll	\$983,374 78	
Temporary Employees payroll	32,408 55	
Overtime payroll	4,552 73	
		\$1,020,336 06

Expenses

Supplies:

Books, maps, etc.	\$917 51	
Typewriter Supplies	1,568 89	
Typewriter Repairs	182 54	
Adding Machine Repairs and Supplies	98 30	
Other Supplies	3,283 37	
Other Repairs	890 71	
Stationery	16,661 37	
		\$23,602 69

Equipment and Furniture:

Typewriter machines	\$3,972 37	
Adding machines	845 00	
Other machines	6,025 64	
Desks	1,007 29	
Bookcases, tables, etc.	1,358 59	
Electric Fans	367 85	
Filing Cabinets	7,152 61	
Chairs	1,096 79	
Dictograph	980 00	
Soundex	9,595 43	
Headlight Equipment	1,603 32	
Diebold Installation	28 55	

Burglar Alarm System	\$283 60	
Uniforms	6,141 76	
Branches—Counters, Safes	658 52	
Decelerometer	319 83	
		\$41,437 15
Traveling Expenses:		
Officials	\$240 81	
Employees	11,271 13	
Aviation	3,339 40	
Automobiles (owned by Employees)	91,444 23	
Maintenance of 12 automobiles	2,802 43	
Purchase of 7 automobiles	4,385 31	
		\$113,483 31
Other Services and Expenses:		
Expressage	\$2,778 82	
Postage	84,200 06	
Paper for printing	8,926 51	
Printing:		
Other reports	1,014 00	
Other printing	9,977 47	
Telephone and teletype	14,010 09	
Premium on Bonds of Employees	508 12	
Rent	300 00	
Cleaning and Janitor Service	495 00	
Labor	1,539 56	
Number plates	119,364 81	
Auto List	10,450 00	
Water and Ice	3 33	
Sundries	174 96	
Temporary branches during rush	43 05	
		\$253,785 78
Branch Offices:		
Rent, telephone, lighting	\$30,868 88	
Labor and services	7,469 16	
Supplies and Express	2,514 09	
		\$40,852 13
	<i>Publicity for Safety Work</i>	
Printing		\$62 68
		\$1,493,559 80
	<i>Committee on Aeronautics</i>	
Committee on Aeronautics		2,425 61
		\$1,495,985 41
	<i>Summary</i>	
Payrolls	\$1,020,336 06	
Expenses	473,161 06	
Publicity for Safety Work	62 68	
Committee on Aeronautics	2,425 61	
		\$1,495,985 41

RELATING TO WATERWAYS AND PUBLIC LANDS BOSTON HARBOR

The Commonwealth Flats at South Boston

Commonwealth Pier 5

During the year work necessary to continue the effective operation of the pier has been carried on as usual. Repairs have been made to gangways, floating fenders, elevators and elevator machinery, sprinkler system, Ogden doors and the heating plant.

In the quarters occupied at the pier by the Department of Public Safety work has been carried out in the installation of additional ventilation, grills for protecting equipment and in the building of partitions.

The work of repairing and reconstructing platforms at the pier, approved as Public Works Administration Project No. Mass. 1301, has been in progress during the year under two contracts.

On Dec. 13, 1935, a contract was made with the Merritt-Chapman and Scott Corporation for the removal of existing pile and concrete platforms and the construction of a new concrete platform consisting of a reinforced concrete deck slab supported by girders and steel beams on caisson and steel pile foundations of which the steel piles were driven to rock bearing. The contract price for removing the existing platform including piling and other structures, and disposing of the material, is the lump sum of \$51,810; the work of rebuilding is done at unit prices at an estimated total contract cost of \$717,974. This work is now in progress.

A contract was made on July 14, 1936, with the Bay State Dredging and Contracting Company for the reconstruction of platforms and pile protection at the Head House at the pier, at a contract price of \$4,500. for removing and disposing of existing platforms, including all incidental work, and at unit prices for the reconstruction and pile protection, at an estimated total contract cost of \$79,513.94. This work is now in progress.

A grant of \$368,550. was made by the Public Works Administration for the reconstruction covered by these contracts. As, however, the lowest bid received for the work at the Head House was greater than the amount of money available for the reconstruction, the Public Works Administration on Sept. 22, 1936, made an additional grant of \$17,976. for the purpose.

As a part of the work required by the Federal Government in connection with its project for further improvement of Boston Harbor by dredging the main ship channel to a depth of 40 feet at mean low water, the Department on Mar. 3, 1936, made a contract with the J. S. Packard Dredging Company to dredge to a depth of 40 feet at mean low water the approach to Commonwealth Pier 5, at the following contract prices: for dredging and disposing of the dredged material 49.75 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20. per cubic yard. The work was completed May 18, 1936, at a contract cost of \$74,097.15.

A letter contract was made on July 28, 1936, with the J. S. Packard Dredging Company for the removal of certain shoals in the approach channel to Commonwealth Pier 5 at the following contract prices; for dredging and disposing of the dredged material 49.75 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20. per cubic yard. This dredging was completed Aug. 6, 1936, at a contract cost of \$2,356.16.

A summary of freight and passengers using the pier in 1936 follows:

NUMBER OF TONS FREIGHT AND PASSENGERS HANDLED AT COMMONWEALTH
PIER NO. 5 DURING FISCAL YEAR ENDING NOVEMBER 30, 1936

Steamship Line	Number of Ships	In Freight (tons)			Out Freight (tons)			Passengers	
		R.R.	Truck	Total	R.R.	Truck	Total	In	Out
Amer.-Haw. S.S. Co.	97	29,635	107,035	136,670	14,181	29,725	43,906	—	—
Luckenbach S.S. Co., Inc.	66	6,322	73,478	79,800	8,197	20,800	28,997	—	—
Norton, Lilly & Co.	1	440	1,220	1,660	—	—	—	—	—
Can. Nat. S.S. Co.	72	264	854	1,118	—	246	246	3,852	3,210
Italian Line	16	88	581	669	254	481	735	550	2,209
Polish Line	1	—	—	—	—	—	—	—	10
French Line	2	—	—	—	—	—	—	77	477
Holland Amer. Line	3	—	—	—	—	20	20	—	429
Totals	258	36,749	183,168	219,917	22,632	51,272	73,904	4,479	6,335

DEVELOPMENT OF LAND SOUTH OF SUMMER STREET

The seven sections of Storehouse No. 1 on E Street have been occupied during the year by the Wiggins Terminals, Inc.

On Jan. 28, 1936, a letter contract was made with Fred L. Douglass to include repairs or extension of the sprinkler system at this warehouse until Nov. 30, 1936.

BOSTON ARMY BASE

In response to a request from the Boston Quartermaster Depot for a wider entrance to the Boston Army Base, the Department conceded for street purposes the use of a triangular parcel of land of the Commonwealth lying northwesterly of the intersection of Summer Street and Harbor Street, with the northerly side of the parcel in line with the northerly side line of Terminal Street of the Army Base extended westerly.

THE COMMONWEALTH FLATS AT EAST BOSTON

Aircraft Landing Field - - - Boston Airport

The greater part of the area reclaimed by the Commonwealth at East Boston continues to be occupied by the city of Boston as an airport. On Aug. 10, 1928, under authority of Chapter 64 of the Resolves of that year, the Department leased to the city approximately 5,717,000 square feet of land for this purpose. The use of an additional area of 4,210,760 square feet was authorized by a lease executed July 14, 1930, in accordance with the provisions of Chapter 53 of the Resolves of 1930. The matter of the lease to the city of two additional parcels, one north-easterly of the areas leased in 1928 and 1930, the other southeasterly of the parcel leased in 1930, is still pending.

The use of these areas by the city is subject to certain rights of occupancy and use granted by lease of June 30, 1922 to the War Department, with an option of annual renewals to June 30, 1937, by a supplementary agreement of Dec. 27, 1926.

Reclamation of Flats

The work of dredging and filling at East Boston under contracts made by the Department for the purpose of reclaiming flats has been in abeyance since 1923. Between that year and Nov. 30, 1936, approximately 3,169,000 cubic yards of material dredged from various locations in the harbor have been deposited in the receiving basin. In the year ending Nov. 30, 1936, about 356,600 cubic yards were dumped upon flats northerly of Governors Island. The Commonwealth has reclaimed approximately 150 acres of land at East Boston.

Under licenses granted for building bulkheads, dredging and filling, the city has reclaimed for the extension of the airport about 140 acres.

COMMONWEALTH PIER 1, EAST BOSTON

The use and occupancy of this pier by John G. Hall and Company, Inc., terminated on May 31, 1936.

A contract was made on Nov. 25, 1936, with the Flynn Roofing and Sheet Metal Works for furnishing and erecting fifty-six skylights at a contract price of \$1,290. This work is now in progress.

EAST BOSTON, CUNARD DOCKS

As a part of the work required by the Federal Government in connection with its project adopted for further improvement of Boston Harbor by dredging the main ship channel to a depth of 40 feet at mean low water, the Department on Feb. 25, 1936, made a contract with the Bay State Dredging and Contracting Company for dredging an area between the Cunard Docks and the main ship channel to a depth of 40 feet at mean low water, at the following contract prices: for dredging and disposing of the dredged material 48.5 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20. for each cubic yard. This work was completed June 26, 1936, at a contract cost of \$97,087.03.

On June 23, 1936, a letter contract was made with the Bay State Dredging and Contracting Company for dredging about 27,000 cubic yards of material from an area between the Cunard Docks and the main ship channel to a depth of 40 feet at mean low water, at the following contract prices: for dredging and disposing of the dredged material 48.5 cents per cubic yard, scow measurement; for removing

and disposing of boulders \$20. per cubic yard. This dredging was completed July 30, 1936, at a contract cost of \$13,070.75.

A letter contract was made on Aug. 4, 1936, with the Bay State Dredging and Contracting Company to continue the dredging to a depth of 40 feet at mean low water in the area between the Cunard Docks and the main ship channel at the contract prices stated in the preceding letter contract. This work is now in progress.

HOUGHS NECK, QUINCY

Sea Wall.—The work of building a sea wall about 840 feet long with riprap protection, and of constructing two stone jetties on the shore at Houghs Neck under the agreement of Aug. 14, 1934, between the city of Quincy and the Department, authorized by Chapter 322 of the Acts of 1934, was completed early in the year at a cost of \$24,146.28. Of this cost \$10,000 was paid by the Department for labor, materials and equipment used in the work.

Dredging.—On Jan. 23, 1936, hearing was held upon the petition of the Quincy Yacht Club for dredging a basin and a channel adjacent to its club house and to the public landing.

A contract with the Bay State Dredging and Contracting Company was made on June 19, 1936, to redredge the channel and basin to a depth of 8 feet at mean low water, the channel to a width of 60 feet and a length of about 1200 feet, the basin to dimensions of about 400 feet by 300 feet, and a connecting basin to a depth of 6 feet at mean low water to a length of about 300 feet and a width of 150 feet, at the following contract prices: for dredging and disposing of the dredged material 49.5 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed July 23, 1936, at a contract cost of \$15,790. Toward this cost a contribution of \$3,500 was made by the city of Quincy.

WEYMOUTH FORE RIVER, QUINCY AND WEYMOUTH

The project adopted by the Federal Government for the improvement of Weymouth Fore River by dredging a channel 300 feet wide and 27 feet deep at mean low water from Hingham Bay to Weymouth Fore River Bridge, required the dredging by local interests of a channel of equal depth and suitable width to extend at least 2,500 feet through and upstream from said bridge.

The Department, in accordance with this requirement of the Federal Government made a contract on Apr. 7, 1936, with the J. S. Packard Dredging Company for dredging to a depth of 27 feet at mean low water a channel from the downstream side of Weymouth Fore River Bridge through the bridge and upstream for a total distance of about 2,800 feet with a width of 300 feet, at the following contract prices: for dredging and disposing of the dredged material 46 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed July 31, 1936, at a contract cost of \$46,159.74. The cost of this dredging was paid from funds provided by Chapter 464 of the Acts of 1935.

On Nov. 19, 1936, a letter contract was made with the J. S. Packard Dredging Company for dredging about 13,000 cubic yards of material in the channel above the Weymouth Fore River Bridge to a depth of 27 feet at mean low water, at the following contract prices: for dredging and disposing of the dredged material 46 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work is now in progress.

WINTHROP DREDGING

Cottage Park and Pleasant Park Yacht Clubs

On Jan. 23, 1936, hearing was held upon a petition of the Cottage Park Yacht Club for dredging a channel to its club house and a petition of the Pleasant Park Yacht Club for dredging a basin and channel to its property.

At its annual town meeting on Mar. 23, 1936, the town of Winthrop appropriated \$6,187.50 as a contribution toward the cost of dredging asked for by the Pleasant Park Yacht Club, and \$4,000 toward the cost of dredging requested by the Cottage Park Yacht Club, upon condition that the Department carried out both projects and arranged for the deposit of the excavated material at Ingleside Park.

A contract was made on July 21, 1936, with the Bay State Dredging and

Contracting Company to dredge a basin 6 feet deep at mean low water at the Pleasant Park Yacht Club, and a channel and basin 8 feet deep at mean low water at the Cottage Park Yacht Club, at the following contract prices: for dredging and disposing of the dredged material at Ingleside Park, Winthrop, by the hydraulic process, including the construction of necessary dikes and sluices or other barriers, 68.5 cents per cubic yard measured in place; for removing and disposing of boulders \$20 for each cubic yard. Work under this contract was completed Sept. 11, 1936, at a contract cost of \$41,887.75. Toward this cost a total contribution of \$10,187.50 was made by the town of Winthrop.

MARINE BORERS

The Department has continued this year its co-operation with the New England Committee on Marine Piling Investigation by maintaining four test boards in Boston Harbor at the following locations: Weymouth Fore River Bridge at Quincy Point; Commonwealth Pier 5, South Boston; Commonwealth Pier 1, East Boston; and at the wharf owned by the Commonwealth in South Bay, Roxbury.

Under Item 668 of Chapter 437 of the Acts of 1936 for inspection of structures in tide water within Boston Harbor, 115 wharves have been inspected above low water and 15 have been inspected by a diver below low water.

SEA WALLS

Repairs have been made during the year to sea walls at Pemberton and Point Allerton in Hull and at Houghs Neck in Quincy.

SURVEYS

Surveys have been made this year in connection with the maintenance and operation of property of the Commonwealth. Hydrographic surveys have been carried on in the Charles River, in the Reserved Channel above L Street Bridge, in the approach channel to Commonwealth Pier 5, between the main ship channel and the Cunard Docks at East Boston, in Weymouth Fore River at Houghs Neck and in parts of Mystic River, as well as in minor channels of Boston Harbor.

RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, Chapter 91 of the General Laws, an appropriation of \$100,000 was made during 1936 with the following condition:

"provided that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered."

An appropriation of \$22,500 was also available during the year for the maintenance of structures and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from the tide waters and great ponds.

Petitions were filed with the Department during the year for surveys and improvements in the following localities: Acushnet River, New Bedford; Cape Poge, Edgartown; Connecticut River, Hatfield, Sunderland, Northampton; Cotuit Harbor, Barnstable; Dennisport, Dennis; East Bay, Barnstable; Falmouth shore protection, Falmouth; Gun Rock-Green Hill sea wall, Hull; Harwichport shore, Harwich; Lake Anthony, Oak Bluffs; Lewis Bay, Barnstable; Lewis Bay, Yarmouth; Manchester Harbor, Manchester; Megansett Harbor, Falmouth; Nantucket Harbor, Nantucket; Nahant Shore protection, Nahant; Oak Bluffs shore protection; Paskamansett River, Dartmouth; Pilgrim Beach, Truro; Pond Village, Truro; Popponneset Bay, Barnstable; Provincetown Harbor, Provincetown; Provincetown shore protection; Rock Harbor, Orleans; Rockport Harbor, Rockport;

Vineyard Haven Harbor, Tisbury; Waquoit Bay, Falmouth; Witchmere Harbor, Harwich.

Public hearings have been held, certain estimates of cost made but no work has been done to carry out improvements petitioned for in Acushnet River, New Bedford; Cape Poge, Edgartown; Gun Rock-Green Hill sea wall, Hull; Lewis Bay, Yarmouth; Nahant Shore, Nahant; Nantucket Harbor, Nantucket; Paskamansett River, Dartmouth; Pond Village, Truro; Rockport Harbor, Rockport.

Information relating to work previously done in various rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands of the Department of Public Works, and of the Department of Public Works, and in the tables of the Appendix accompanying the present report. These reports show localities, character of work, appropriations and expenditures by the Commonwealth and certain appropriations and expenditures by the Federal Government.

An account of work done during the year 1936 for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor follows.

ALLENS HARBOR, HARWICH

The work of dredging in the entrance channel to Allens Harbor under contract of June 18, 1935, with Herbert T. Gerrish, was completed July 1, 1936. Toward the cost of this work a contribution of \$1,000 was made by the town of Harwich.

BARNSTABLE DREDGING

Cotuit Harbor, East Bay and Lewis Bay

On Jan. 23, 1936, hearing was held upon petitions of the Selectmen of Barnstable for dredging entrance channels to Cotuit Harbor, East Bay and Lewis Bay.

A contract was made on July 1, 1936, with the Bay State Dredging and Contracting Company to dredge a channel at the entrance to Cotuit Harbor 100 feet wide on the bottom and 6 feet deep at mean low water; the entrance to East Bay 60 feet wide on the bottom and 6 feet deep at mean low water; and the entrance channel to Lewis Bay 80 feet wide on the bottom and 9 feet deep at mean low water. The contract prices for this work are: for dredging and disposing of the dredged material 81 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. The dredging in East Bay and Lewis Bay has been completed but the work at Cotuit has not yet begun.

A contribution of \$9,000 has been made by the town of Barnstable toward the cost of the dredging covered by this contract.

BARNSTABLE SHORE PROTECTION

South Hyannis

The work of building a concrete sea wall and three stone jetties, under contract of Sept. 3, 1935, with Harry L. Jones, was completed June 16, at a contract cost of \$14,205.92. Toward this cost contributions amounting to \$3,993.67 were made in 1935 by individuals and organizations interested, and an equal amount was contributed by the county of Barnstable.

West Beach

The work of building four stone jetties at Squaw Island Road under contract of Sept. 4, 1935, with Frederick V. Lawrence was completed Dec. 2, 1935, at a contract cost of \$4,086.08. Toward this cost a contribution of \$1,350 was made by the town and one of an equal amount by the County.

On Aug. 28, 1936, a letter contract was made with Harry L. Jones for unloading, delivering and placing stone bought by the town for repairing and protecting a part of Squaw Island Road. This work was completed Sept. 15, 1936, at a contract cost of \$578.

CAPE COD CANAL LANDING PIER, BOURNE

The present pier, authorized by Chapter 441 of the Acts of 1931, was completed during 1934. It is of solid fill construction, about 600 feet long, providing a depth

of 25 feet in the dock at mean low water and a light timber extension about 400 feet long available as a tie up for vessels along the easterly side of the turning basin. Upon the pier a superstructure 36 feet wide and 200 feet long has been built of brick, steel and timber.

No work except minor repairs has been needed during the year.

After the taking made by the Department on April 26, 1932, for the site of the pier and of the area between mean high and low water required for the building of the structure and the dredging of berths and a turning basin, the awards for damages were contested in the courts by the Trustees under the will of Charles H. Taylor and by Charles H. Taylor, Jr. The cases were settled in 1936 by the payment of \$18,615.35 to the said Trustees and of \$15,509.65 to Charles H. Taylor, Jr. The funds for the settlement were available from an appropriation of \$34,125, made for the purpose by Chapter 432 of the Acts of 1936.

CONNECTICUT RIVER—W.P.A. PROJECTS

The floods of March, 1936, resulted in an amount of damage and destruction along the rivers and streams of the Commonwealth, especially in the valleys of the Connecticut and Merrimack rivers, never before experienced in this State by the rise of their waters. The Connecticut River rose to a height exceeding by about 6 feet any level previously recorded.

Before this disaster the Department had secured approval of certain projects for flood control on the Connecticut River, to be financed chiefly from Federal Funds allocated by the Works Progress Administration. In view of the new data supplied by the unprecedented rise of the river, it seemed advisable to modify and extend the plans for protective work.

Approval was received for projects involving an expenditure of \$577,626.50, but before work began certain portions of it were undertaken by the United States Army Engineers, particularly some work at West Springfield, all of that proposed at Springfield and parts of that contemplated in Chicopee, Hadley and Hatfield.

The work under the supervision of the Department is now in progress. Riprap is being placed along the river bank in Northampton, West Springfield, Deerfield, Chicopee and Holyoke, dikes are under construction in Hadley, Hatfield, Northfield, Chicopee, West Springfield and Holyoke, and a concrete river wall is being built at South Hadley. Additional protective work has been authorized, but not yet begun, in Whately, Northfield, Hadley, South Hadley and Hatfield.

The total expenditure during the year from funds provided by the Works Progress Administration is \$182,427.56. The total cost during the year to the Commonwealth is \$17,896.58. The funds expended by the State for this purpose were paid largely from the appropriation of \$50,000 made by Chapter 142 of the Acts of 1936 for co-operative work with the Works Progress Administration.

DENNIS SHORE

On June 10, 1936, hearing was held upon a petition of the Selectmen of Dennis for the construction of a jetty to protect the public bathing beach at Raycroft Park, Dennisport, from further erosion.

On Aug. 5, 1936, hearing was held upon a petition of the Selectmen for protective work at the shore at Dennisport near the town landing and adjacent to the property of Harry G. Poreh.

A contract with the H and J Construction Company was made Sept. 22, 1936, for building two stone jetties each about 160 feet long at Dennisport, one at a point opposite the Cordes property and easterly of a town way, in order to protect the public bathing beach, and the other jetty and riprap at a point opposite property of Harry G. Poreh and easterly along the town way. The contract price for this work is \$3.75 for each ton of 2,000 pounds of granite stone riprap and chips in the jetties. The work is now in progress.

Toward the cost of this shore protection contributions of \$600 each have been made by the town and the county.

On Nov. 30, 1936, a letter contract was made with the H & J Construction Company to provide for the placing of 156 tons of additional riprap under the terms and conditions of the contract of Sept. 22, 1936.

ELLISVILLE HARBOR, PLYMOUTH

A letter contract was made Aug. 7, 1936, with Arthur K. Finney for further excavation at the entrance to Ellisville Harbor by the use of a caterpillar crane. The work was completed Aug. 10, 1936, at a contract cost of \$100.

FALMOUTH INNER HARBOR, FALMOUTH

The work of dredging an anchorage basin under contract of May 21, 1935, with Herbert T. Gerrish was completed June 1, 1936. Toward the cost of this work a contribution of \$5,000 was made by the town of Falmouth.

FALMOUTH SHORE

Hearing was held on Jan. 23, 1936, upon a petition of the Selectmen of Falmouth for protective work along the shore opposite Shore Street.

On Oct. 6, 1936, a contract was made with Turner and Breivogel to build a steel sheet pile bulkhead with reinforced concrete cap opposite Shore Street, at the following contract prices: for all steel sheet piling furnished and driven in the completed work, \$74.01 per ton; for all reinforcing steel furnished and placed in the concrete cap, 7.8 cents per pound; for furnishing material and constructing the concrete cap, \$17.29 for each cubic yard of concrete measured in place in the completed work. This project is now in progress.

Toward the cost of the work contributions of \$750 each have been made by the town and by the county.

GLOUCESTER FISH PIER

Chapter 303 of the Acts of 1936 provides as follows:

SECTION 1. Chapter three hundred and eleven of the acts of nineteen hundred and thirty-one is hereby amended by striking out section one and inserting in place thereof the following:—*Section 1.* For the purpose of improving and developing Gloucester harbor for the promotion of the fish industry and the commercial facilities of the city of Gloucester, the state department of public works, hereinafter called the department, is hereby authorized to construct a fish pier in said harbor on a site to be determined by the department with the approval of the municipal council of said city and the Gloucester Planning Board, to erect thereon such buildings as said purposes may require and properly equip the same, to do all dredging necessary for the proper use of said pier, and to provide necessary water and sewerage facilities therefor. Said construction may extend beyond existing harbor lines. All contracts for work authorized by this section shall be subject to the approval of the governor and council.

SECTION 2. Said chapter three hundred and eleven is hereby further amended by striking out section two and inserting in place thereof the following:—*Section 2.* Said city may take by eminent domain under chapter seventy-nine of the General Laws or acquire by purchase or otherwise such piers, wharves, buildings, lands, flats, rights, privileges and easements within the said harbor and adjacent territory as may be necessary for the said purposes, except such as may be owned by the commonwealth, and may transfer the same or such part thereof as the department shall require for said purposes, to the commonwealth, without cost to it, and the property so transferred shall be used for the aforesaid purposes.

SECTION 3. Said chapter three hundred and eleven is hereby further amended by striking out section three, as most recently amended by chapter two hundred and forty-four of the acts of nineteen hundred and thirty-four, and inserting in place thereof the following:—*Section 3.* No work authorized by section one shall be done unless prior to June first, nineteen hundred and thirty-seven, the city of Gloucester shall effect the transfer to the commonwealth of property authorized to be acquired by the preceding section, and shall agree to lay out, construct and maintain at its own expense a public way, suitable for heavy trucking, and extending from the site of the proposed pier to an existing public way which is a main artery of travel; nor unless prior to said date a corporation incorporated under the laws of the commonwealth, hereinafter called the lessee, the financial responsibility of which is satisfactory to the commissioner of corporations and taxation, shall execute a lease of said pier together with the buildings thereon, for a term

beginning on the date of the completion by the department of the work authorized by section one and ending September thirtieth, nineteen hundred and forty-nine. Said lease shall provide that the lessee shall pay to the commonwealth a rental not less than twenty thousand dollars a year, and shall be subject to such provisions and conditions as may be agreed upon by the department and the lessee.

SECTION 4. Said chapter three hundred and eleven is hereby further amended by striking out section four and inserting in place thereof the following:—*Section 4.* At the expiration of the original term of said lease, provided it is continued in full force and effect at all times during such term, it may, at the option of the lessee, be renewed for a further period of twenty years, at such rental, not less than twenty-five thousand dollars a year, as may be agreed upon by the department and the lessee, or, in case of failure so to agree, as may be determined by three arbitrators, one to be named by the department, one by the lessee and a third to be selected by the two so chosen. At the termination of said renewed lease, it may, at the option of the lessee, be again renewed and for such term of years and upon such terms and conditions as may be agreed upon by the department and the lessee, or, in case of failure so to agree, as may be determined by three arbitrators appointed as aforesaid.

SECTION 5. Said chapter three hundred and eleven is hereby further amended by striking out section five and inserting in place thereof the following:—*Section 5.* To meet the expenditures necessary in carrying out the provisions of section one, as amended, the state treasurer shall, upon request of the department, issue and sell, at public or private sale, bonds of the commonwealth, registered or with interest coupons attached, as he may deem best, to an amount to be specified by the department from time to time, but not in excess of six hundred and sixty thousand dollars in the aggregate. All such bonds shall be designated on their face,—Gloucester Pier Loan, and shall be on the serial payment plan for such maximum term of years as the governor may recommend to the general court in accordance with section three of article sixty-two of the amendments to the constitution of the commonwealth, the maturities thereof to be so arranged that the amount payable each year, other than the final year, shall, as nearly as is in the opinion of the state treasurer practicable, be equal. Said bonds shall bear interest payable semi-annually at such rate as the state treasurer, with the approval of the governor and council, shall fix.

SECTION 6. Said chapter three hundred and eleven is hereby further amended by inserting after section five the following new section:—*Section 5A.* For the purpose of acquiring land for said pier, the city of Gloucester may borrow from time to time, within a period of five years from June first, nineteen hundred and thirty-six, such sums as may be necessary, not exceeding, in the aggregate, one hundred thousand dollars, and may issue bonds or notes therefor which shall bear on their face the words, Gloucester Pier Loan, Act of 1936. Each authorized issue shall constitute a separate loan and such loans shall be paid in not more than twenty years from their dates. Indebtedness incurred under this section shall be inside the debt limit and shall, except as herein provided, be subject to the provisions of chapter forty-four of the General Laws, exclusive of the limitation contained in the first paragraph of section seven thereof. *Approved May 29, 1936.*

To supplement the funds provided by the statute, the Department applied to the Federal Public Works Administration for aid in financing the building of the pier. The work was approved as P.W.A. Project 1354 R S and a grant of not exceeding \$540,000 was offered and accepted by the Department in September.

After a public hearing in Gloucester on Oct. 6, 1936, the Department voted on Oct. 15, 1936, to adopt the site at Five Pound Island for the proposed fish and commercial pier authorized by the Act. On Oct. 24, 1936, the Municipal Council of Gloucester passed an Order approving this site, and on Oct. 26, 1936, the Gloucester Planning Board voted its approval.

On Nov. 4, 1936, proposals were received for the lease of the proposed pier. A request was then made for the approval of the site at Five Pound Island by the Federal authorities and copies of the proposals received for the lease of the pier were forwarded with the request, and with a draft of the contemplated lease.

A reply under date of Nov. 13, 1936, was received from the office of the Federal Public Works Administration stating that the Corporation submitting the only

proposal received for lease of a fish and commercial pier at the Five Pound Island site, is not acceptable as Federal funds are not available unless the lessee is a non-profit sharing corporation. Efforts are now being made in Gloucester to organize a co-operative or non-profit sharing corporation, satisfactory to the Federal Government, as lessee of the proposed pier.

HARWICH SHORE PROTECTION

Hearing was held on Jan. 23, 1936, upon a petition of the Selectmen of Harwich for protective work upon the shore from Dennis to the Chatham boundary line.

A contract was made on Sept. 8, 1936, with the H and J Construction Company for building four stone jetties and rebuilding two jetties at Harwichport, at the following contract prices: for furnishing and placing granite stone riprap and chips in the jetties, \$3.90 for each ton of 2,000 pounds; for furnishing crane operator, two men and all incidental work in rebuilding the two jetties, the sum of \$10 for each hour. This work is now in progress. Toward the cost of the project contributions of \$1,000 each were made by the town and by the county.

At the request of the Selectmen further protective work was provided for by a contract made on Nov. 17, 1936, with F. V. Lawrence for building four stone jetties at Harwichport at a contract price of \$3.15 for each ton of 2,000 pounds of granite stone riprap and chips furnished and placed in the jetties. Toward the cost of this work contributions of \$1,200 each were made by the town and by the county.

HERRING RIVER, HARWICH

The work of dredging in the entrance to Herring River under contract of June 18, 1935, with Herbert T. Gerrish was completed July 1, 1936. Toward the cost of this dredging a contribution of \$1,000 was made by the town of Harwich.

On Nov. 9, 1936, a letter contract was made with Herbert T. Gerrish for dredging about 4,085 cubic yards of material from this entrance channel and for disposing of the dredged material on the east side of the easterly jetty, at a contract price of 43 cents per cubic yard. The work was completed Nov. 13, 1936.

HITHER CREEK, NANTUCKET

A contract was made on April 1, 1936, with Herbert T. Gerrish for dredging to a depth of 4 feet at mean low water, a channel 50 feet wide on the bottom and about 2,300 feet long and a basin 200 feet wide and 500 feet long on the bottom, in Hither Creek, Nantucket, at the contract price of 55 cents per cubic yard for material, measured in place, for dredging and disposing of excavated material on marsh and flats by the hydraulic process, including the construction of the necessary dikes and sluices or other barriers. This work was completed October 1, 1936, at a contract cost of \$10,890.

The cost of this dredging was paid from funds available under the provisions of Chapter 464 of the Acts of 1935.

HOUSATONIC RIVER, PITTSFIELD

Chapter 413 of the Acts of 1935 provides as follows:

SECTION 1. The department of Public Works is hereby authorized and directed to provide for the control of the flood waters of the Housatonic river in the city of Pittsfield for the purpose of safeguarding and protecting the lives and property of the people of said city against perils from floods and erosion of the banks of said river, and for said purpose the department may exercise all the powers conferred upon it by chapter ninety-one of the General Laws relative to the improvement of rivers and harbors. No work shall be begun hereunder until the city of Pittsfield has assumed liability, in the manner provided by section twenty-nine of said chapter ninety-one, for all damages that may be incurred hereunder, nor until there has been paid into the treasury of the commonwealth by the county of Berkshire the sum of twenty-five hundred dollars, and by said city of Pittsfield the sum of ten thousand dollars, which, together with such sum, not exceeding twelve thousand five hundred dollars, as may hereafter be appropriated by the commonwealth, shall constitute a fund for the improvements herein authorized; provided, that the total cost of such improvements shall not exceed twenty-five thousand dollars.

SECTION 2. For the purpose of meeting the payment required to be made by the county of Berkshire under this act, the treasurer of said county, with the approval of the county commissioners, may borrow the sum of twenty-five hundred dollars for the term of one year and may issue notes of the county therefor.

For the purpose of meeting the payment required to be made by the city of Pittsfield under this act, said city may borrow a sum not exceeding ten thousand dollars, and may issue bonds or notes therefor, payable in not more than two years from the dates thereof. Indebtedness incurred by said city under this act shall be within the statutory limit and shall, except as herein provided, be subject to chapter forty-four of the General Laws, exclusive of the limitation contained in the first paragraph of section seven thereof.

The said county and city may sell the said securities at public or private sale, but not for less than their par value.

Plans for the work authorized by the statute were prepared by the Department and approved by the city and county authorities. Difficulties so serious, however, were found in securing the necessary release from owners of property, that the city has been unwilling to assume the liability for damages required by the provisions of the Act. The project has, therefore, been abandoned for the present.

LAKE ANTHONY, OAK BLUFFS

Hearing was held on Jan. 23, 1936, upon the petition of the Selectmen of Oak Bluffs for dredging Lake Anthony.

On April 1, 1936, a contract was made with Herbert T. Gerrish to dredge the entrance channel and anchorage basin at Lake Anthony, the channel 100 feet wide on the bottom, 700 feet long and 9 feet deep at mean low water, the basin 800 feet long, about 400 feet wide on the bottom and 7 feet deep at mean low water, at the following contract prices: for dredging and disposing of the excavated material back of the new bulkhead or on marsh or flats by the hydraulic process, including the construction of the necessary dikes and sluices or other barriers, 50 cents for each cubic yard of material measured in place; for removing and disposing of boulders, \$20 for each cubic yard. This dredging was completed Nov. 10, 1936, at a contract cost of \$13,122.

In connection with this work the town of Oak Bluffs built a bulkhead at the northerly end of Lake Anthony to provide a disposal area for the dredged material.

The cost of the dredging carried out under this contract is paid from funds available under the provisions of Chapter 464 of the Acts of 1935.

MANCHESTER HARBOR, MANCHESTER

The work under contract of Oct. 4, 1935, with the Bay State Dredging and Contracting Company for dredging in Manchester Harbor, was completed Dec. 28, 1935, at a contract cost of \$33,859.52. This cost included additional dredging to provide anchorage space for small boats. The entire cost of the work was paid from funds available under the provisions of Chapter 464 of the Acts of 1935.

Hearing was held on Jan. 23, 1936, upon a petition of the Selectmen of Manchester for further dredging in Manchester Harbor.

On Sept. 8, 1936, a contract was made with the J. S. Packard Dredging Company for dredging an anchorage basin 6 feet deep at mean low water and a channel about 5,400 feet long of widths varying from 150 feet to 100 feet and to 60 feet, to a depth of 8 feet at mean low water, in this harbor, at the following contract prices: for dredging and disposing of the dredged material 55 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work is now in progress. Toward the cost of the dredging a contribution of \$20,000 has been made by the town of Manchester.

MEGANSETT HARBOR, FALMOUTH

Hearing was held Jan. 23, 1936, upon a petition of the Selectmen of Falmouth for the construction of a breakwater at the entrance to Megansett Harbor.

On Sept. 8, 1936, a contract was made with George M. Bryne for building a stone breakwater at this harbor at a contract price of \$3.45 per ton of 2,000 pounds for heavy stone riprap furnished in place in the completed work. The construc-

tion of the breakwater is now in progress. Toward the cost of the work a contribution of \$12,000 has been made by the town of Falmouth.

MENAMSHA CREEK, CHILMARK AND GAY HEAD

The dredging under contract of Oct. 4, 1935, with the Bay State Dredging and Contracting Company was completed Dec. 13, 1935, at a contract cost of \$51,300. This cost was paid from funds available under the provisions of Chapter 464 of the Acts of 1935.

NEW BEDFORD STATE PIER

During the year a portion of this pier has been occupied by the Lamport Manufacturing Supply Company, Inc., at a rental of \$5,500. While the lease of April 27, 1933, authorizing this occupancy expired March 31, 1936, the Company has been allowed to continue since that date as tenant-at-will.

The work of furnishing and driving creosoted, yellow pine piles and furnishing and placing creosoted, yellow pine cap log and untreated oak facing, at the pier, under contract of Nov. 6, 1935, with Frank C. Taylor, Inc., was completed Jan. 7, 1936, at a contract cost of \$2,886.62.

On Nov. 3, 1936, a letter contract was made with Frank C. Taylor, Inc., for replacing a fender pile cluster with one additional bearing pile at the outer end of the pier, at a contract price of \$600. This work was completed Nov. 30, 1936, at a contract cost of \$600.

A letter contract with James Yohe was made on Nov. 3, 1936, for repairing and painting two flag poles at the pier, at a contract price of \$48. This work is now in progress.

On Nov. 25, 1936, a letter contract was made with Frank C. Taylor, Inc., for repairs to the cluster piles at the southeasterly corner of the pier, at a total cost not exceeding \$50. This work was completed Nov. 30, 1936, at a contract cost of \$46.

The use of the New Bedford State Pier, particularly by vessels in coastwise trade from Gulf and Pacific ports, has now increased to a degree requiring additional space for the handling of cargo. Two of the steamship lines making regular weekly trips to the port have been obliged to find storage space for a part of their cargo at points a considerable distance from the waterfront, and, in consequence, to incur high trucking costs in order to transfer goods from the pier to the warehouses.

The Lamport Manufacturing Supply Company, Inc., which has never used the facilities provided for water borne commerce at the pier, still occupies over 75% of the covered storage space. The amount of rental paid by the Company is less than the net income to the Department from the operation of less than 25% of the total facilities. Income from the pier would be largely increased were the whole structure with all its facilities devoted to the purposes of water borne commerce for which the pier was originally intended.

OAK BLUFFS SHORE PROTECTION

Hearing was held Jan. 23, 1936, upon a petition of the Selectmen of Oak Bluffs for protective work along the shore.

On June 2, 1936, a letter contract was made with Turner and Breivogel to straighten, redrive to the proper level, and repair certain portions of the pile and timber bulkhead at the Highlands, for the lump sum of \$2,300. This work was completed Aug. 10, 1936.

A contract was made on Aug. 11, 1936, with Frederick V. Lawrence to furnish and place about 2,000 tons of stone riprap and about 850 cubic yards of back filling to protect the bank back of the present timber bulkhead at the Highlands. The contract prices for this work were: for each ton of heavy stone riprap furnished in place in the completed work, \$5.23; for furnishing material and filling bank in back of bulkhead, 90 cents for each cubic yard of fill measured in place in the completed work. This project was completed Oct. 28, 1936, at a contract cost of \$11,554.31.

ONSET BAY, WAREHAM

The work of dredging a channel and basin in Onset Bay under contract of Oct. 4, 1935, with Herbert T. Gerrish was completed April 16, 1936, at a contract cost of \$60,382.72. This cost was paid from funds made available by the provisions of Chapter 464 of the Acts of 1935.

On July 28, 1936, a letter contract was made with the Bay State Dredging and Contracting Company for removing two shoals in the channel to the town wharf at Onset, at a contract price of 51.5 cents per cubic yard, scow measurement, for dredging, and of \$20 per cubic yard for removing boulders. This work was completed Nov. 2, 1936, at a contract cost of \$1,763.76.

COMMONWEALTH PROPERTY AT PLYMOUTH

An appropriation of \$4,000 was made this year by the Legislature for the maintenance and repair of property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Department by vote of the Governor and Council on July 17, 1924.

The usual care has been given to the pier and the grounds during the year, and minor repairs have been made as they became necessary.

The work of rebuilding the State Pier under contract of July 16, 1935, with the Lee Construction Company was completed Jan. 30, 1936, but final payment is awaiting certain adjustment.

To provide for the rebuilding of the approach to the pier, a contract with John F. Shea Company, Inc., was made on Aug. 11, 1936, for furnishing all materials for the construction of about 110 linear feet of timber cap, resetting a portion of the existing granite curbing, furnishing and setting about 10 linear feet of new granite curbing, placing about 200 cubic yards of new fill and about 1,400 square yards of bituminous concrete pavement in the approach to the State Pier. The contract prices for this work were: for furnishing material and filling, \$1.00 per cubic yard of material in the fill measured in the completed work; for re-setting granite curbing and furnishing and setting new granite curbing, the lump sum of \$140; for furnishing all materials and constructing timber cap complete in place, the lump sum of \$240; for furnishing all materials, equipment and incidental work in placing the bituminous concrete surface in the approach completed in place, \$1 for each square yard of bituminous concrete surface in place. The work was completed Sept. 11, 1936, at a contract cost of \$2,075.

In October the Commissioners were asked by the Selectmen of Plymouth to allow fishing boats to tie up at the State Pier and to discharge cargo there during the months from October 1st of each year to June 1st of the following year, as the town pier is inadequate for the requirements of the fishermen in the winter season. As such use of the pier will not interfere with the docking of the steamboats for landing and embarking passengers from June 1st to October 1st of each year, there appears no objection to granting the request of the Selectmen.

The Department on Nov. 3, 1936, adopted rules and regulations allowing the use of the pier by the fishing boats between October 1st and June 1st at rates now in force at the Cape Cod Canal Pier for similar service. These regulations were approved by the Governor and Council on Nov. 12, 1936, and became effective upon that date.

PLYMOUTH HARBOR, PLYMOUTH

The work of dredging in Plymouth Harbor under contract of Oct. 4, 1935, with the Bay State Dredging and Contracting Company was completed Dec. 11, 1935. The original project for dredging two areas in the basin near the Plymouth Yacht Club, was extended to provide for the excavation of an additional area for a turning basin at the State Pier and for extension of the dredging in the anchorage basin. The contract cost of the entire work was \$40,863.87. This cost was paid from funds made available by Chapter 464 of the Acts of 1935.

During the year, at the request of the Selectmen, a survey of the outer harbor was made.

POPPONESSET BAY, BARNSTABLE

Hearing was held Jan. 23, 1936, upon a petition of Robert T. Fowler for dredging

in Popponeset Bay along the easterly shore in extension northerly of the existing channel.

On June 21, 1936, a contract was made with Herbert T. Gerrish for dredging in Popponeset Bay to a depth of 5 feet at mean low water a channel 50 feet wide on the bottom and a basin about 250 feet long and 200 feet wide to the same depth, at the following contract prices: for dredging and disposing of the excavated material on marsh and flats by the hydraulic process, including the construction of the necessary dikes, and sluices or other barriers, for each cubic yard of material measured in place 52 cents; for removing and disposing of boulders \$20 per cubic yard. Work under this contract has not yet begun.

PROVINCETOWN HARBOR, PROVINCETOWN

The Cape God Steamship Company, because of a change in conditions at the town wharf in Provincetown, filed a petition in May for dredging by the Commonwealth of an entrance channel to the wharf known as the Sklaroff Pier in Provincetown, and of berths at this pier. Hearing was held early in June upon this petition.

A contract was made on June 2, 1936, with the Bay State Dredging and Contracting Company for dredging an entrance channel and berth at the Sklaroff Wharf, a channel 100 feet wide on the bottom, and a berth 60 feet wide on the bottom and 15 feet deep at mean low water, at the following contract prices: for dredging and disposing of the dredged material 64 cents per cubic yard, scow measurement. This dredging was completed July 25, 1936, at a contract cost of \$19,843.20. Funds to pay for the work were provided by the Legislature by item 654A of Chapter 432 of the Acts of 1936.

PROVINCETOWN TERCENTENARY COMMISSION

During the year the land at Provincetown acquired by the Provincetown Tercentenary Commission and placed under the control of the Department on June 23, 1926, has been cared for from funds appropriated for this area and the Province Lands. An employee has been kept at work during the summer to maintain the park in proper condition.

ROCK HARBOR, ORLEANS

Hearing was held Jan. 23, 1936, on the petition of the Selectmen of Orleans for protective work at Rock Harbor.

A letter contract with Roland L. Mayo was made on July 28, 1936, for furnishing and placing about 60 cubic yards of sand and gravel back of the bulkhead at Rock Harbor, for surfacing the filling with 3½ inches of hot mix road surfacing, and for placing 160 tons of quarry stone riprap, for the lump sum of \$1,040. This work was completed Sept. 1, 1936, at a contract cost of \$1,132.68.

On Aug. 21, 1936, a letter contract was made with Roland L. Mayo to remove blocks of bituminous road material from the back of the bulkhead at Rock Harbor, at actual cost plus 15%, at a total estimated cost of \$92.86. This work was completed Aug. 6, 1936, at a contract cost of \$92.86.

A letter contract for the extension of the protective work was made with Roland L. Mayo on Nov. 10, 1936, for placing about 100 tons of stone riprap for \$3 per ton and about 100 cubic yards of gravel fill for \$1.50 per cubic yard, in extending the riprap. This work was completed Nov. 27, 1936, at a contract cost of \$459.53.

Toward the cost of the protective work at Rock Harbor contributions of \$500 each were made by the town of Orleans and by the county.

ROUGHAN'S POINT, REVERE

By Chapter 358 of the Acts of 1936, the Department of Public Works is authorized and directed to construct a sea wall at Roughan's Point in the Beachmont section of the city of Revere, extending from the Cherry Island bar to the existing sea wall on Winthrop parkway, and to take by eminent domain under Chapter 79 of the General Laws, or acquire by purchase or otherwise, any lands or interests therein necessary or desirable for such purpose. The statute provides that no work shall be begun until the city of Revere has contributed and paid into the treasury of the Commonwealth \$42,500 to be used with a sum not exceeding \$127,500 appropriated by the Commonwealth.

The required contribution of \$42,500 was paid into the State Treasury by the city of Revere in September.

A letter contract was made on Sept. 14, 1936, with the Raymond Concrete Pile Company to take wash borings at the site of the proposed sea wall at a contract price of 72 cents per linear foot. This work was completed Sept. 23, 1936, at a contract cost of \$359.28.

On Nov. 6, 1936, the Department made a taking of the right and easement in certain parcels of land at Roughan's Point, Revere, necessary for the construction and maintenance of the sea wall. This taking was approved by the Governor and Council on Nov. 12, 1936, and recorded in the registry of deeds for Suffolk County on Nov. 17, 1936.

A contract was made on Nov. 17, 1936, with M. F. Gaddis, Inc., for the construction of a concrete and steel sea wall, granite steps, solid fill and riprap at Roughan's Point, at the following contract prices: for furnishing and driving steel sheet piling in place, \$80 for each ton in the completed work; for furnishing materials for constructing the concrete sea wall and stair wells, including forms, tie rods, steel reinforcement, excavation and all incidental work, \$15 for each cubic yard of concrete measured in place in the completed work; for furnishing and placing granite stone riprap and chips against the sea side of the sea wall, \$2.20 for each ton of 2,000 pounds of granite stone riprap and chips in place in the completed work; for furnishing materials for filling in place back of the sea wall, 60 cents for each cubic yard of material measured in place in the completed work; for furnishing and setting each granite stone step in place, \$18 for each granite stone step furnished in place in the completed work. No work has yet been done under this contract.

SALISBURY DIKE

The Salisbury Reclamation District made in March the taking necessary to acquire the land for the construction of the dike and incidental structures authorized by Chapter 399 of the Acts of 1935.

A contract with A. A. Hersey and Son Company was made April 1, 1936, for building a pile and timber bulkhead or dam, a concrete tide gate chamber, boat roll-way and filling in Blackwater Creek, at the unit prices stated in the contract. This work was completed Sept. 30, 1936, at a contract cost of \$11,668.87.

The Department has filed an application for Federal funds to allow the placing of riprap and sod upon the slopes of the dike and the raising of the height of adjacent dikes built under the provisions of the Emergency Relief Administration by the Salisbury Reclamation District. As a part of the work necessary is in the State of New Hampshire, the approval of the project has been delayed.

SAUGUS RIVER, REVERE

In July the Department received a request from the Point of Pines Yacht Club for the removal of rocks in the Saugus River channel opposite its club house. An investigation by the engineer showed several yards of loose boulders lying above a ledge and constituting a menace to small boats using the channel.

A letter contract with the Crandall Engineering Company was made on Aug. 24, 1936, for the removal of these boulders for the sum of \$740. The work was completed Sept. 19, 1936, at a contract cost of \$740.

SCITUATE HARBOR, SCITUATE

The dredging in Scituate Harbor under contract of Oct. 4, 1935, with the Bay State Dredging and Contracting Company was completed Dec. 19, 1935, at a contract cost of \$22,739.94. This cost was paid from funds made available by Chapter 464 of the Acts of 1935.

SCITUATE SEA WALLS

A letter contract was made on Nov. 25, 1936, with Frank H. Barry to provide for minor repairs to the sea walls at Scituate. Materials for the work are to be supplied by the Department, while the contractor is to furnish all labor and equipment on the basis of actual cost plus ten per cent. The total cost, including labor, materials and inspection, is not to exceed \$2,000. This work is now in progress.

SMITH'S COVE, GLOUCESTER

The work of dredging in Smith's Cove, under contract of Oct. 4, 1935, with the J. S. Packard Dredging Company, was completed Dec. 23, 1935. The original project for improvement was extended during the progress of the work to include the dredging of a channel 100 feet wide on the bottom and 10 feet deep at mean low water from the dredged area to a landing pier at the head of Smith's Cove. The contract cost of the whole work was \$37,714.68. This cost was paid from funds made available by Chapter 464 of the Acts of 1935.

TRURO SHORE PROTECTION

Pilgrim Beach

Hearing was held June 3, 1936, upon a petition of the Selectmen of Truro for the construction of stone jetties on the shore of Cape Cod Bay at Pilgrim Beach.

On Aug. 26, 1936, a contract was made with George M. Bryne to build three stone jetties on the shore of Pilgrim Beach at a contract price of \$4.73 for each ton of 2,000 pounds of granite stone riprap and granite chips furnished and placed in the completed work. This project was completed Nov. 11, 1936, at a contract cost of \$3,796.06. Toward this cost contributions of \$1,000 each were made by the town and the county.

VINEYARD HAVEN HARBOR, TISBURY

Hearing was held Jan. 23, 1936, upon a petition of the Selectmen of Tisbury for dredging in Vineyard Haven Harbor in extension of the work to be carried out by the Federal Government.

The dredging requested is to be done as a P.W.A. project toward the cost of which a contribution of 45% is to be made by the Federal Government.

WAQUOIT BAY, FALMOUTH

Hearing was held Jan. 23, 1936, upon a petition of Charles L. Swift for dredging and the construction of a jetty at Waquoit Bay.

On Oct. 27, 1936, a contract was made with Frederick V. Lawrence to build a stone jetty on the westerly side of the entrance to Waquoit Bay at a contract price of \$3.24 for each ton of heavy stone riprap and stone chips furnished and placed in the completed work. Toward the cost of this work a contribution of \$10,000 has been made by the town of Falmouth.

WEST CHOP, TISBURY

In May a request was received by the Department for the extension of the protective work recently carried out at West Chop. An investigation by the engineer showed a considerable erosion taking place westerly of the protection already provided.

A contract was made on Nov. 25, 1936, with Frederick V. Lawrence to place riprap along the bank at a contract price of \$5.10 for each ton of 2,000 pounds of stone riprap or chips furnished in place in the completed work. Toward the cost of this project a contribution of \$1,000 has been made by the town and contributions amounting to \$2,000 by the owners of property involved.

WEST FALMOUTH HARBOR, FALMOUTH

The work of dredging a channel in West Falmouth Harbor under contract of May 21, 1935, with Herbert T. Gerrish was completed June 1, 1936. Toward the cost of the work a contribution of \$5,000 was made by the town of Falmouth.

During the progress of the dredging certain old piles and timber debris from the wreckage of the timber breakwater at West Falmouth Harbor, were found obstructing the entrance channel and were deposited by the contractor upon the beach at Chappaquoit Island. In response to complaints from the owners of the property a letter contract was made on May 19, 1936, with Arthur C. Burke for removal of the debris. This work was completed May 31, 1936, at a contract cost of \$35.

WITCHMERE HARBOR, HARWICH

Hearing was held Jan. 23, 1936, upon a petition of the Selectmen of Harwich for dredging the entrance to Witchmere Harbor.

A letter contract was made on July 2, 1936, with Herbert T. Gerrish for dredging about 4,000 cubic yards of material from the entrance channel to Witchmere Harbor at a contract price of 67 cents per cubic yard, including the disposal of material along the shore on the east side of the easterly jetty. This work was completed Oct. 14, 1936, at a contract cost of \$2,680. Toward this cost a contribution of \$1,500 was made by the town of Harwich.

At the request of the Selectmen the Department in October authorized a survey to determine the cost of extending the jetty at Witchmere Harbor and of dredging westerly of the extension.

YARMOUTH SHORE PROTECTION

A contract was made on Oct. 6, 1936, with J. W. Nickerson for placing about 1,575 tons of heavy stone riprap and about 425 tons of stone chips along the shore at South Yarmouth Beach, at a contract price of \$2.99 for each ton of stone riprap and stone chips furnished and placed in the completed work. This project is now in progress. Toward the cost of this protection of the shore contributions of \$2,000 each have been made by the town and the county.

Miscellaneous

GREAT PONDS

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by Chapter 318 of the Acts of 1888. This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was later given by Chapter 379 of the Acts of 1904, now section 2 of Chapter 91 of the General Laws.

During the year the Department has considered matters relating to: Bensons Pond, Middleborough; Benton Pond, Otis; Blackmore's Pond, Wareham; Cedar Dell Pond, South Dartmouth; Farm Pond, Sherborn; Great Pond, Otis; Lake Archer, Wrentham; Lake Pearl, Wrentham; Lake Winthrop, Holliston; Laurel Lake, Lee; Lead Mine Pond or Quassac Lake, Sturbridge; Manchaug Lake, Douglas; Onota Lake, Pittsfield; Turkey Hill Lake, Rutland; Wolomolopog Pond, Sharon.

Surveys were made this year of the following great ponds:

White Pond, Chatham

Area at time of survey	39.98 acres
Natural pond area	39.98 acres

Prospect Lake, Egremont

Area at time of survey	59.57 acres
Natural pond area	38.85 acres

Water level of this lake is controlled by dam at the outlet.

Access to Great Ponds

During the year two petitions have been received, each signed by ten citizens of the Commonwealth requesting the establishment of a right of way for public access, one to Three Mile Pond, or Brush Hill Pond, in the town of Sheffield, and the other to White Pond in the town of Chatham. As surveys of these ponds appear necessary before public hearing is held, no further action has yet been taken.

BENSON'S POND, MIDDLEBOROUGH

On Oct. 13, 1931, the Department, acting under the provisions of Chapter 243 of the Acts of that year, executed a deed to George A. Cowen conveying to him all the right, title and interest of the Commonwealth in Benson's Pond. This deed was approved by the Governor and Council on Oct. 21, 1931.

The conveyance provided that the work shown upon the plan submitted by Mr. Cowen should be carried out within five years, and that unless the draining and developing of the entire pond area for cranberry culture is completed within that period, all right, title and interest in the property shall revert to the Commonwealth.

George A. Cowen was unable to do the work required within the stated period and before the expiration of the deed asked that further time be granted for completion of the project. A deed has, accordingly, been given, with the approval of the Governor and Council, requiring the completion of the work within five years from Oct. 21, 1936.

PROVINCE LANDS

The territory belonging to the Commonwealth known as the Province Lands at Provincetown comprises about 3,810 acres lying northerly and westerly of a line described in Chapter 470 of the Acts of 1893. By the terms of this act the Board of Harbor and Land Commissioners was given general care and supervision of this area.

Reclamation work under the direction of a superintendent has been carried on since 1894. The movement of sand has been checked in recent years by covering the dunes with brush which affords enough protection for the natural re-seeding of beach grass. This work is followed by the transplanting of shrubs and trees. Bayberry has been found very valuable for this purpose, particularly along the top of the slopes of the dunes.

During the year work has been carried on in accordance with these methods. About five acres of sand dunes have been covered with brush, 10,000 native pitch pine trees have been transplanted and 80,000 Scotch pine and 200 bayberry shrubs planted.

About nine acres of forest area, previously burned, have been cleared of dead trees and brush to reduce the fire hazard and provide for the new growth.

The work of destroying the brown tail and gypsy moths upon these lands has been continued during the year.

The sand dike at Race Run has been repaired, parking areas kept in condition, about 200 feet of rustic fence built along the beach near Wood End Light, one mile of combination fire stop and truck trail constructed with sand piles at intervals along the way, and water holes established last year have been deepened.

The sum of \$177 has been paid into the State Treasury during the year from licenses issued for cultivating and picking cranberries on the bogs and for mowing meadows and from permits for occupying areas on these lands.

STATE BOUNDARY LINES

During the year sections of the New York-Massachusetts boundary line, which were found badly overgrown with brush during the perambulation made in 1935, were again examined and several miles of brush cleared from the line to permit easier access for future examinations.

TOWN BOUNDARY LINES

During the year ranges were set for the exterior line of the town of Wellfleet to define the boundary line of the town in tide water. A survey has been made of a portion of the Andover-North Reading boundary line and one bound stone re-set.

The boundary line in the tide waters of Lagoon Pond between the towns of Oak Bluffs and Tisbury was re-established by Chapter 145 of the Acts of 1935, and marked in that year. At the request of the Selectmen of Tisbury the positions of the buoys set in 1935 were checked again in 1936.

CONSERVING AND EQUALIZING THE FLOW OF WATER IN RIVERS AND STREAMS

By Chapter 359 of the Acts of 1909, Chapter 564 of the Acts of 1912, and Chapter 84 of the Resolves of 1917, co-operation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, so that results of work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by the said survey have been obtained for use by the Department and are available for other Departments of

the Commonwealth. Toward the cost of this work the Department has paid during the year, \$5,000.

RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS

By section 33 of Chapter 91 of the General Laws, the Department is authorized to make such surveys and to do such other work as may be required by any order of the Land Court, to re-establish and permanently mark certain triangulation points and stations previously established in connection with the topographical survey of the Commonwealth, and the town boundary survey, which have been lost or destroyed, and to obtain the geographical position of such new points and stations as may be required from time to time by the Court.

During the year several miles of base line were run on the island of Nantucket by survey parties operating under the provisions of the W.P.A. The funds provided for re-establishing triangulation points were used to meet the expenses of these survey parties.

LICENSES AND PERMITS

During the year 101 licenses were granted for work to be done in tide waters, great ponds, Connecticut River and Merrimack River and 154 permits for miscellaneous purposes. The Department also approved 97 permits granted by cities and towns for the construction and maintenance of fish weirs in tide water.

EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR
1859-1936, INCLUSIVE

<i>Payments</i>	<i>To Nov. 30, 1935</i>	<i>1936</i>	<i>Total</i>
Boston Harbor:	\$1,775,443 46 ¹	—	
Maintenance of Property		\$25,268 81	
Dredging and Filling		101,254 13	\$1,901,966 40
Special Appropriations			
Commonwealth Flats:			
East Boston	3,093,326 83 ²	—	3,093,326 83
South Boston	4,892,123 69	—	4,892,123 69
Castle Island:	749,734 74		
Dredging and Filling		3,196 72	752,931 46
Commonwealth Pier No. 5: South Boston:			
Construction	4,014,790 45	—	4,014,790 45
Maintenance	883,966 38	204,750 00 ^s	
		419,784 93	1,508,501 31
Dredging	61,323 75	78,301 19	139,624 94
Operation and Supervision	1,942,849 01	130,449 19	2,073,298 20
Commonwealth Pier No. 1: East Boston:			
Construction	1,199,703 23	—	1,199,703 23
Operation and Supervision	127,987 12	2,206 66	130,193 78
Maintenance	37,037 36	—	37,037 36
Commonwealth Pier No. 6: South Boston:			
Construction	1,092,149 06	—	1,092,149 06
Maintenance	51,937 90	—	51,937 90
Dry Dock	3,169,651 15 ³	—	3,169,651 15
Hayward Creek	385,979 61 ⁴	—	385,979 61
Mystic River	514,026 75 ⁵	—	514,026 75 ⁷
Malden River	33,002 84 ⁶	—	33,002 84
Chelsea Creek	61,094 35	51 08	61,145 43
Commercial Point—Dorchester Bay	53,213 10	—	53,213 10
Maintenance of Property (in addition to maintenance items listed above)	453,089 00	34,327 24	487,416 24
	\$24,592,429 78	\$999,589 95	\$25,592,019 73

¹ Expenditure includes contribution by Quincy Market Cold Storage and Warehouse Corporation in 1921 \$4,000 00
Bethlehem Shipbuilding Corporation in 1930 10,000 00

² Expenditure includes contribution by the City of Boston in 1926, authorized by Chapter 385, Acts of 1926 10,000 00

³ Additional amount paid by the State Treasurer from Development of the Port of Boston Loan Sinking Fund in settlement of claims 17,877 73

⁴ Expenditures include contributions by Massachusetts Oil Refining Company and Bethlehem Shipbuilding Corporation 38,600 00
Additional amount paid by State Treasurer for land taking 3,725 27

⁵ Expenditure includes contribution by Merrimac Chemical Company in 1920 15,000 00
in 1922 4,812 50

⁶ Commonwealth's funds expended by the United States Government 31,000 00
Contribution by Standard Oil Company of New York in 1922, expended by the Commonwealth 600 00

⁷ Expenditure includes transfer from Small Harbors and Channels Table 5,927 70

⁸ United States Government contribution.

EXPENDITURES AND CONTRIBUTIONS FOR IMPROVEMENT OF SMALL HARBORS AND CHANNELS WITHIN BOSTON HARBOR, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS, FROM 1893 TO 1936 INCLUSIVE

<i>Locality and Character of Work</i>	Contributions 1936	Total Contributions	Expenditures 1936	Total Expenditures
Cottage Park Channel, Winthrop—Dredging . . .	\$4,000 00	\$10,250 00	\$16,974 99	\$54,942 28
Dorchester, Easterly Shore—Dredging and Survey . .	—	1,000 00	—	210,767 61
Harbor View—Dredging . . .	—	—	—	146 00
Hingham Harbor—Dredging . .	—	6,500 00	—	41,595 12
Houghs Neck, Quincy—Dredging, Survey and Seawall . . .	—	7,500 00	18,964 79	74,130 48
Island End River, Everett—Survey . . .	—	—	—	264 10
Jeffries Point Channel—Dredging . . .	—	—	—	4,563 93
Mystic River (near Lawrence and Wiggin Wharf)—Dredging ¹ . . .	—	—	—	—
Neponset River—Dredging . .	—	10,000 00	—	109,401 63
Old Harbor Cove—Dredging . .	—	—	—	10,520 48
Orient Heights Channel—Dredging . . .	—	—	—	45,412 38
Pemberton Point, Hull—Breakwater . . .	—	60,000 00	—	91,195 01
Pleasant Park Yacht Club Channel—Dredging . .	6,187 50	9,187 50	26,399 22	75,134 61
Point Allerton, Hull—Seawall . .	—	50,000 00	—	75,127 05
Point Shirley, Winthrop . . .	—	—	—	3,713 37
Quincy Bay—Dredging . . .	—	10,150 00	104 52	84,266 99
Shirley Gut, Boston and Winthrop—Dredging . . .	—	—	—	2,432 34
South Boston, Southerly Shore—Dredging . . .	—	—	—	129,542 08
Stony Beach, Hull—Seawall and riprap . . .	—	8,000 00	—	28,658 05
Town River, Quincy—Survey and Dredging . . .	—	16,050 00	8,481 97	116,760 66
Weir River, Hull—Dredging . .	—	45,000 00	—	205,336 48
Wessagusett Channel—Dredging . . .	—	—	—	815 20
Weymouth Fore River—Dredging . . .	—	8,250 00	48,918 77	119,025 39
Winthrop Harbor Channels—Dredging . . .	—	20,567 00	—	91,169 11
	\$10,187 50	\$262,454 50	\$119,844 26	\$1,574,920 35

EXPENDITURES AND CONTRIBUTIONS FOR RIVER AND HARBOR WORK
FROM DECEMBER 1, 1935 TO NOVEMBER 30, 1936

<i>Locations and Character of Work</i>	Contributions	Expenditures
Allen's Harbor, Harwich—Survey and Dredging . . .	—	\$5,193 60
Barlow's River, Pocasset Harbor, Bourne Survey . . .	—	89 03
Cape Cod Canal Pier—Construction . . .	—	34,663 77
Cape Cod Canal Pier—Operation and maintenance . .	—	4,615 41

¹ See Mystic River under Boston Harbor Table.

<i>Locations and Character of Work</i>	<i>Contributions</i>	<i>Expenditures</i>
Centerville River	—	49 03
Connecticut River, Chicopee, W.P.A.	—	4,258 14
Connecticut River—Surveys	—	3,209 74
Connecticut River—Deerfield, W.P.A.	—	250 96
Connecticut River—Hadley, W.P.A.	—	851 06
Connecticut River—Hatfield, W.P.A.	—	415 59
Connecticut River—Montague, W.P.A.	—	1,121 49
Connecticut River—Northfield, W.P.A.	—	362 07
Connecticut River—Northampton, W.P.A.	—	631 76
Connecticut River—South Hadley, W.P.A.	—	4,538 12
Connecticut River—Springfield and West Springfield, W.P.A.	—	1,981 75
Connecticut River—Sunderland, W.P.A.	—	287 90
Dennisport	\$1,200 00	2,047 25
East Bay, Osterville and Barnstable	9,000 00	6,663 83
Ellisville Harbor, Plymouth	—	156 00
Fall River Harbor	—	361 30
Falmouth Inner Harbor, Falmouth	—	10,696 76
Old Silver Beach, Herring River—Falmouth	—	37 73
West Falmouth Harbor, Falmouth	547 00	12,146 32
Wild Harbor, Falmouth	—	30 00
Falmouth (opposite Shore Street)	1,500 00	1,711 60
Gloucester Fish Pier	—	847 15
Great Ponds	—	449 18
Gun Rock Point, Hull	—	870 39
Harwichport Beach	4,400 00	3,029 61
Herring River, Harwich	—	1,642 98
Hyannisport (Squaw Island Road) Barnstable	—	4,748 31
Hyannisport (Squaw Island Road) Barnstable	—	12,886 20
Lewis Bay (Hyannis) Barnstable	—	10,747 73
Manchester Harbor, Manchester	20,000 00	46,970 01
Marine Borer Investigations	—	567 35
Manomet Point Plymouth	—	450 00
Megansett Harbor, Bourne and Falmouth	12,000 00	188 94
Menamsha Inlet	—	29,288 21
Nantucket (Hither Creek)	—	11,319 43
New Bedford State Pier, Operation	—	12,483 95
New Bedford State Pier, Construction and Dredging	—	5,613 05
Oak Bluffs, Sea Wall, bulkhead and jetties	—	13,572 24
Onset Bay, Wareham	—	\$63,360 60
Plymouth Harbor	—	15,656 53
Plymouth Memorial Park, dredging and maintenance	—	14,109 26
Popponessett Bay, Barnstable - Mashpee	5,000 00	376 50
Province Lands	—	4,993 60
Provincetown Harbor	—	20,375 76
Rock Harbor, Orleans	1,000 00	3,220 16
Roughan's Point, Revere	42,500 00	968 70
Blackwater Creek, Salisbury	—	13,820 14
Saugus River, Lynn-Saugus	—	783 15
Scituate Harbor, Scituate	—	12,439 00
North Scituate, Surfside	—	292 69
Smith's Cove, Gloucester	—	22,968 03
South Hyannis, Barnstable	—	15,550 50
South Pier, Marshfield and Scituate	—	281 11
South Yarmouth Beach, Yarmouth	4,000 00	1,672 26
Taunton River, Taunton	—	238 71
Inspection Tidewater Structures outside Boston Harbor	—	1,213 89

<i>Locality and Character of Work</i>	Contributions	Expenditures
North Truro	—	—
Pilgrim Beach	2,000 00	3,902 15
Waquoit Bay, Falmouth and Mashpee	10,000 00	1,803 60
Water Conservation	—	5,000 00
West Chop, Tisbury	—	136 75
Witchmere Harbor, Harwich	1,500 00	2,583 19
Engineering Unclassified	—	11,707 80
	<hr/>	<hr/>
	\$114,647 00	\$470,077 02

EXPENDITURES AND CONTRIBUTIONS FROM 1893 TO 1936, INCLUSIVE, FOR RIVER AND HARBOR WORK, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS (EXCEPTING BOSTON HARBOR)

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Acushnet Harbor, inspection and dredging	—	\$119,810 10
Allens Harbor, Harwich, shore protection, dredg- ing, riprap and jetties	\$20,927 50	56,571 97
Allens Pond, Dartmouth, survey	—	195 95
Angle Tree Monument (Reservation)	—	1,306 22
Annisquam River, Gloucester, dredging, removing ledges and riprap	13,250 00	171,498 69
Apponagansett Harbor and River, Dartmouth, survey, dredging and stone breakwater	—	55,786 05
Barlows River, Pocasset Harbor, Bourne	—	296 82
Barnstable Harbor, Barnstable, dredging	7,500 00	30,693 16
Bass River, Beverly, dredging	57,535 75	84,953 51
Bass River, Dennis and Yarmouth, jetties, dredg- ing and survey	25,095 00	192,092 22
Beach Street, Scituate—see Scituate	—	—
Beverly Harbor, Beverly, dredging	—	50,000 00 ¹
Brant Rock, Marshfield, shore protection	111,503 66	231,026 89
Brewster, Skaket Inlet, survey	—	617 19
Buck's Creek, Chatham, jetties, survey, and dredging	2,500 00	39,719 69
Buzzards Bay, Falmouth, survey	—	166 11
Cape Cod Canal Pier, Bourne, construction	—	298,930 99
Cape Cod Canal Pier, Bourne, operation and maintenance	—	15,640 59
Cape Poge, Edgartown, cut through beach, dredg- ing, jetties, and riprap	16,500 00	60,636 03 ²
Cataumet Harbor—see Megansett Harbor	—	—
Cedar Point, Scituate—see Scituate	—	—
Centerville River, Barnstable, dredging	19,711 50	44,378 80
Chatham, riprap and surveys	10,500 00	19,853 19
Cohasset Harbor, Cohasset, breakwater and dredging	42,691 88	116,191 93
Concord River, Billerica, removing boulders	150 00	1,664 59
Connecticut River, Agawam, protective work	—	18,814 42
Connecticut River, Chicopee, survey, wall, and riprap	640 00	30,047 16
Connecticut River, Deerfield, survey, wall and riprap	—	1,478 27
Connecticut River, investigation of navigation and surveys	—	12,088 70
Connecticut River, Greenfield survey and riprap	—	1,607 76

¹ State funds expended under direction of United States Government.

² \$17,543.96 expended from United States Government funds (Emergency P.W.A.).

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Connecticut River, Hadley, survey, diversion wall and riprap	\$7,000 00	125,447 60 ³
Connecticut River, Hatfield, dikes and riprap	1,000 00	51,984 07
Connecticut River, Holyoke, dredging and protective work	1,991 29	9,253 27
Connecticut River, Holyoke, marking and lighting old piers	—	1,195 32
Connecticut River, Montague	—	1,121 49
Connecticut River, Northfield, survey and protective work	—	14,630 73
Connecticut River, Northampton, riprap	—	1,524 20 ⁴
Connecticut River, Northampton, riprap	—	1,249 13
Connecticut River, South Hadley, wall	1,000 00	11,917 70
Connecticut River, Springfield and West Springfield, protective work	—	16,999 60 ⁵
Connecticut River, Sunderland	—	287 90
Conservation of Waters, investigation	—	98,764 54
Cotuit Harbor, Barnstable, dredging, survey and bulkhead repairs	17,845 10	92,828 26
Cuttyhunk Harbor, Gosnold, jetties and dredging	10,000 00	83,935 78
Deacon Pond Harbor—see Falmouth Inner Harbor		
Dennis:		
Dennisport, stone jetty	2,400 00	4,362 72
Nobscusset Harbor, breakwater and riprap	6,710 00	48,564 29
North Dennis stone jetty	1,200 00	4,819 70 ⁷
Swan Pond River, stone jetties	1,750 00	3,906 74
West Dennis, stone jetty and survey	750 00	1,709 03
Duxbury Bay and Harbor, dredging and survey	35,000 00	109,104 31
East Bay, Osterville, jetties, dredging and removing scows	19,000 00	77,633 58
Edgartown Harbor, Edgartown, survey and cut in beach	300 00	3,496 64
Ellisville Harbor, Plymouth, dredging and jetty repairs	—	\$21,264 64
Essex County Beaches, survey	—	1,000 00
Essex River, Essex, dredging	—	76,304 33 ⁶
Fall River Harbor, improvement	—	1,491 48
Falmouth, Great Pond, channel excavation and jetty	5,000 00	10,508 89
Falmouth Heights, Falmouth, survey, sea wall and riprap	23,460 04	73,351 19
Falmouth Inner Harbor, dredging, jetties, wall and riprap	33,500 00	164,976 39
Falmouth, Menauhant Shore, bulkheads, jetties, and riprap	3,100 00	6,075 33
Falmouth, Old Silver Beach (Herring River) stone jetty	2,000 00	3,107 03
Falmouth (opposite Shore Street)	1,500 00	1,711 60
First and Second Cliffs, Scituate—see Scituate		
Fresh Water Cove, Gloucester, dredging	3,300 00	17,477 53
Gay Head, survey	—	555 42
Geological Survey Trust Fund	3,000 00	3,000 00
Glades, North Scituate—see Scituate		
Gloucester Fish Pier	—	1,244 06

³ From 1888, inclusive.⁴ This location is now part of Holyoke.⁵ From 1891, inclusive.⁶ Transferred \$2,603.37 from Nobscusset Harbor, Dennis.⁷ Includes \$5,000.00 expended by United States Government.

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Gloucester, Western Avenue, sea wall	35,000 00	60,000 00
Gloucester Harbor, Gloucester, dredging and removing ledges	15,000 00	148,802 79
Great Head, Winthrop—see Winthrop Shore	—	30,983 49
Great Ponds, survey	—	—
Green Harbor, Marshfield, jetties, dredging and survey	42,500 00	167,361 13
Gun Rock Point, Hull, breakwater and sea wall repairs	16,135 41	78,809 72
Harbor Cove, Gloucester, survey and dredging	3,866 00	25,155 04
Harwichport Beach, Harwich, shore protection	10,400 00	12,418 68
Harwich Shore near Chatham Line, stone jetty	350 00	1,206 75
Harwich Shore, Chatham to Dennis, survey	—	2,040 01
Herring Creek, Scituate	—	253 76
Herring River, Harwich, jetties, dredging and riprap	38,300 00	138,312 20
Herring River, Wellfleet	10,000 00	44,714 55
Hoosac River, North Adams, excavation and survey	—	\$21,271 67
Housatonic River, Sheffield, survey	—	2,011 29
Hull, seawall and jetties	8,882 06	42,093 96
Humarock Beach, Scituate—see Scituate	—	—
Hyannis Harbor, Barnstable, bulkhead, dredging and riprap	21,750 00	45,582 46
Hyannisport, Squaw Island Road, Barnstable	2,700 00	5,398 43
Hyannisport, Barnstable, survey and breakwater	20,500 00	101,465 33
Hyannisport, Halls Creek, Barnstable survey	—	112 00
Improvement of Rivers and Harbors, general expenses	—	85,604 04
Ipswich River, Ipswich, jetty wall, riprap and dredging	3,800 00	60,087 07
Kings Beach, Swampscott, removal of obstruction	—	166 41
Lagoon Pond, Tisbury and Oak Bluffs, survey, dredging, and jetty	13,500 00	26,075 99
Lake Anthony, Oak Bluffs, survey, dredging and jetties	16,000 00	111,457 28
Lake Quannapowitt, Wakefield, investigation	—	345 32
Lake Quinsigamond, Worcester, investigation	—	1,760 56
Lake Tashmoo, Tisbury, survey	—	432 88
Lewis Bay, Barnstable, survey, and dredging	18,809 29	77,622 06
Little Harbor, Cohasset, survey	500 00	1,476 77
Little Harbor, Marblehead, dredging	2,500 00	11,166 16
Little Harbor, Gloucester, survey	—	862 93
Lobster Cove, Gloucester, dredging	4,500 00	61,603 36
Long Beach, Rockport, seawall	27,700 00	57,306 56
Lynn Harbor, Lynn, anchorage basin, survey, and dredging	5,200 00	121,609 22
Lynn Harbor and Saugus River, dredging and filling	37,500 00	165,932 29
Manchester Harbor, Manchester, survey, jetties and dredging	103,000 00	254,551 76
Manomet Point, Plymouth, riprap and fill	7,250 00	14,370 20
Marine Borer Investigations	—	1,322 78
Marshfield-Duxbury, survey	—	358 61
Mattapoissett Harbor, survey	—	255 48
Megansett Harbor, Bourne and Falmouth, dredg- ing	25,330 00	53,648 78

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Menamsha Inlet Chilmark and Gay Head, jetties, dredging, seawall and riprap	2,700 00	183,282 92
Merrimack River investigation	—	1,208 50
Merrimack River Mouth, Newburyport, survey	—	111 87
Mill River, Gloucester	300 00	24,899 59
Mitchells River, Chatham	6,000 00	23,113 92
Monument Beach, Bourne, survey	—	326 40
Nahant, survey and riprap	15,000 00	30,177 19
Namequoit River and Pleasant Bay, Chatham, dredging	6,250 00	31,943 68
Nantucket Harbor, dredging	5,000 00	58,982 52
Nantucket, Hither Creek, survey and dredging	—	11,539 88
Nantucket, survey of Sesachacha Pond	—	110 66
Nauset Harbor and Town Cove, Orleans, dredging	2,000 00	10,671 24
New Bedford Harbor, dredging	—	18,856 57
New Bedford State Pier, shed, dredging, repairs and alterations	13,446 74 ^s	568,547 24
New Bedford State Pier, operation and mainte- nance	—	102,055 94
Newburyport Harbor, survey	—	115 97
Nobscusset Harbor, Dennis—see Dennis		
North Dennis—see Dennis		
North River, Marshfield, survey and removing rocks	1,800 00	8,658 75
North River, Salem, survey	—	719 45
North Scituate—see Scituate		
Oak Bluffs, removing rocks	—	594 95
Oak Bluffs, seawalls, bulkhead and jetties	60,000 00	174,329 48
Ocean Grove, Swansea, survey	—	143 23
Onset Bay, Wareham, survey and dredging	1,000 00	79,227 15
Orleans, survey	—	104 18
Palmers Pond, Falmouth, survey	—	358 76
Pamet River, Truro, survey, dredging, and re- pairing jetties	1,200 00	198,429 21
Paskamansett River, Dartmouth, dredging and jetty	—	5,227 68
Penikese Island, Gosnold, pile wharf and survey	—	5,192 95
Pines River, Revere and Saugus, survey	—	904 80
Pleasant Bay, Chatham, dredging	600 00	2,364 33
Plum Island River, Newbury and Newburyport, survey	—	983 31
Plymouth Harbor, dredging and removing old piling	92,794 55 ⁹	368,417 27
Plymouth Memorial Park, dredging and mainte- nance	—	100,828 52
Point Shirley, Winthrop—see Winthrop Shore		
Poponessett Bay, Barnstable and Mashpee, dredg- ing	5,000 00	46,628 83
Powow River, Amesbury, dredging channel and riprapping wall	—	502 94
Province Lands, Provincetown, reclamation	—	181,270 41
Provincetown Harbor, shore protection	2,575 00	65,678 75
Quamquisset Harbor, Falmouth, survey	—	710 31
Quanset Harbor, Orleans, survey and dredging	500 00	2,194 50
Red Brook Harbor, Bourne, removing pier	—	275 00
Revere, stone breakwater	—	60,397 93

^s Paid by Surety Company.⁹ \$57,000 expended under direction of United States Government.

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Rock Harbor, Orleans, timber bulkhead platform and dredging	11,400 00	40,973 93
Rockport Harbor, Rockport, dredging, and removing rocks	4,750 00	32,945 41
Roughans Point, Revere	42,500 00	1,219 35
Sagamore Beach, Bourne, stone jetties, and riprap	5,000 00	10,591 83
Salem Harbor, Salem, survey	—	1,509 92
Salisbury Beach, survey	—	5,051 52
Salisbury, Black Water Creek	—	13,820 14
Salt Pond River, Eastham, survey	—	210 11
Salters Point, Dartmouth, breakwater	4,500 00	42,939 57
Sand Hills, Scituate—see Scituate		
Sandwich Harbor, Sandwich, dredging channel, riprap and jetties	—	80,579 84
Saugus River, Lynn and Saugus, survey and dredging	2,000 00	21,638 76
Scituate, shore protection	75,000 00	—
Beach Street, Scituate, wall and breakwater	17,333 52	34,782 50
Cedar Point, Scituate, wall and breakwater	21,446 64	41,298 70
First and Second Cliffs, Scituate wall and riprap	2,797 92	19,553 12
Glades, North Scituate, filling and riprap	13,250 78	40,164 61
Humarock Beach, Scituate, survey wall and jetties	37,816 38	83,583 74
North Scituate, Surfside, seawall jetties and riprap	2,194 68	34,704 89
Sand Hills, Scituate, survey, wall, and jetties	6,011 26	38,170 07
Third Cliff, Scituate, riprap and survey	75,193 10	139,334 98
General Surveys at Scituate	—	543 73
Shore Acres, Scituate, riprap	—	20,488 98
Sand Hills to Shore Acres, seawall, jetties, and riprap	—	33,490 52
Scituate Harbor, dredging and surveys	53,300 00	229,942 61
Scorton Harbor, Sandwich, jetty and dredging	500 00	17,774 34
Seapuit River, Barnstable, dredging	13,000 00	25,110 95
Sengekontacket Pond, Oak Bluffs, survey	—	329 28
Sesuit Harbor, Dennis, jetty	1,500 00	24,555 10
Shirley Gut, Winthrop, survey	—	201 06
Singing Beach, Manchester, survey and riprap	7,562 50	12,732 92
Sippican Harbor, Marion, survey	—	615 66
Smiths Cove, Gloucester, survey and dredging	3,875 00	52,752 34
South Harwich, stone jetties and riprap	2,500 00	5,351 97
South Hyannis, Barnstable, survey, seawall and jetties	7,987 34	15,591 65
South River, Marshfield and Scituate, survey	—	1,005 96
South River, Salem, dredging	3,000 00	13,462 66
South Watuppa Pond, Fall River, fenders and excavation	—	203 42
South Yarmouth Beach, Yarmouth, jetties	9,000 00	10,153 12
Stage Harbor, Chatham, dikes and survey	—	14,901 80
Stream Gauging—see Conservation of Waters		
Swampscott, survey	—	103 46
Swan Pond River, Dennis—see Dennis		
Taunton-Brockton, waterway investigation	—	5,278 18
Taunton River, survey and dredging	42,500 00	31,800 66
Taunton River, Boston Harbor Canal, survey	—	9,932 75
Taunton River, Massachusetts Bay Canal, survey	—	11,786 71
Tidewater Structures, Outside Boston Harbor, inspection	—	1,213 89

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Truro Beach, survey	—	71 74
Truro, Pilgrim Beach, jetties	2,000 00	3,902 15
Vineyard Haven Harbor, Tisbury, breakwater and dredging	1,000 00	45,518 25
Vineyard Haven Harbor, repairing seawalls	2,380 50	11,945 01
Waquoit Bay, Falmouth, breakwater, wall, bulk- head and dredging	27,500 00	109,531 19
Wareham River, Wareham, survey and dredging	5,000 00	42,567 93
Warrens Cove, Plymouth, sea wall and survey	15,213 98	38,412 87
Watch Hill, Chatham, survey and riprap	—	14,968 75
Water Conservation—see Conservation of Waters		
Wellfleet Harbor, Wellfleet, survey and dredging	1,500 00	17,600 29
West Bay, Barnstable and Osterville, dredging, jetties and riprap	17,216 35	120,337 08
West Chop, Tisbury, stone jetties	6,500 00	13,182 28
West Dennis Beach—see Dennis		
West Falmouth Harbor, Falmouth, surveys, dredging and breakwater	24,520 75	81,253 37
West Harwich Beach, Harwich, shore protection	6,400 00	27,242 50
Western Avenue Seawall, Gloucester—see Gloucester		
Westfield River, Westfield, survey and jetties	—	6,037 29
Westport Harbor, Westport, jetty extension and repairs	—	21,928 88
Westport River, Westport	—	476 70
Wild Harbor, Falmouth, jetty and dredging	15,000 00	55,158 66
Winthrop Shore, Winthrop, seawalls and protec- tion	81,500 00	341,698 89
Wychmere Harbor, Harwich, jetties and dredging	8,000 00	72,611 10
Woods Hole, Great Harbor, Falmouth, dredging	1,500 00	6,968 86
Wrecks, removal from tide water	—	21,803 04
Yarmouthport Harbor, survey and dredging	7,000 00	95,977 37
	<hr/>	<hr/>
	\$1,904,601 47	\$9,580,608 05

FEDERAL APPROPRIATIONS AND EXPENDITURES

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the close of the fiscal year ending June 30, 1936, are shown in the following tables furnished by the Chief of Engineers, U. S. Army:—

TABLE NO. 1—*Localities at Present Under Improvement*

<i>Locality</i>	Expenditures	Appropriations
Gloucester Harbor and Annisquam River	\$559,237 45	\$591,671 55
Lynn Harbor	814,750 77	814,750 77
Boston Harbor	14,938,270 43	15,829,709 34
Plymouth Harbor	511,253 36	511,881 35 ¹
Cape Cod Canal	22,944,516 44	28,076,797 80
Operating and Care, Cape Cod Canal	1,878,842 83	1,878,842 83
Pollock Rip Shoals, Nantucket Sound	1,507,693 53	1,527,029 26
Cross Rip Shoals, Nantucket Sound	48,837 20	48,837 20
New Bedford and Fairhaven Harbor	1,812,363 00	1,836,847 42
Fall River Harbor	790,149 49	790,149 49
Taunton River	383,838 10	383,838 10
Newburyport Harbor	513,807 22	671,708 13

¹ Exclusive of \$108,400 contributed funds.

<i>Locality</i>	Expenditures	Appropriations
Mystic River	530,474 94	781,684 84
Weymouth Fore River	641,150 00	915,150 00 ²
Harbor of Refuge at Nantucket	733,636 52	809,082 83
Total	\$48,608,821 28	\$55,467,980 91

² Exclusive of \$100,000 contributed funds.

TABLE NO. 2—*Localities in Which Work is Not Now in Progress*

<i>Locality</i>	Expenditures	Appropriations
Merrimack River	\$404,466 72	\$404,466 72
Malden River	149,950 00	149,950 00 ¹
Sandy Bay, Cape Ann, Harbor of Refuge	1,941,478 00	1,941,478 00
Bass River	20,150 41	20,150 41 ²
Buzzards Bay Harbor (Weepecket Rock)	2,500 00	2,500 00
Canapitset Channel	9,112 54	9,800 00
Chatham Harbor	12,171 36	13,732 79
Cohasset Harbor	10,000 00	10,000 00
Duxbury Harbor	37,000 00	37,000 00
East Dennis Breakwater (Barnstable Bay)	7 57	1,500 00
Edgartown Harbor (Martha's Vineyard)	30,000 00	30,000 00
Essex River	30,000 00	30,000 00
Hingham Harbor	38,316 58	38,316 58
Hyannis Harbor	221,787 75	221,267 07
Ipswich River	5,617 91	5,617 91
Kingston Harbor	8,940 09	10,000 00
Little Harbor, Woods Hole	18,000 00	18,000 00
Manchester Harbor	23,985 57	23,985 57
Marblehead Harbor	833 42	1,900 00
Powow River	50,940 72	51,000 00 ³
Rockport Harbor	91,229 25	91,229 25
Town River	37,577 41	37,577 41
Vineyard Haven Harbor	55,387 35	55,387 35
Wareham Harbor	95,997 30	96,236 00
Wellfleet Harbor	11,365 57	16,000 00
Westport Harbor and River	3,000 00	3,000 00
Winthrop Harbor	9,000 00	9,000 00
Woods Hole Channel	343,599 92	344,000 00
Beverly Harbor	246,690 41	246,690 41 ⁴
Salem Harbor	107,956 57	107,956 57
Dorchester Bay and Neponset River	128,176 44	128,176 44
Weymouth Back River	27,000 00	27,000 00
Scituate Harbor	126,590 98	126,590 98
Provincetown Harbor	348,062 72	348,062 72
Total	\$4,646,892 56	\$4,657,572 18

¹ Exclusive of \$62,000 contributed funds.

² Project abandoned in 1930.

³ Project abandoned in 1905.

⁴ Exclusive of \$100,000 contributed funds.

RECAPITULATION

	Expenditures	Appropriations
Total of Table No. 1	\$48,608,821 28	\$55,467,980 91
Total of Table No. 2	4,646,892 56	4,657,572 18
Total	\$53,255,713 84	\$60,125,553 09

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
434	Falmouth Inner Harbor and West Falmouth Harbor,—dredging.	Herbert T. Gerrish .	May 21, 1935
438	Allens Harbor and Herring River, Harwich,—dredging.	Herbert T. Gerrish .	June 18, 1935
440	Plymouth State Pier,—building a pile and timber pier, timber bulkhead and dredging.	Lee Construction Co., Inc.	July 16, 1935
445	Barnstable,—sea wall and jetties at South Hyannis.	Harry L. Jones . .	Sept. 3, 1935
447	Blackwater Creek, Salisbury,—dike	A. A. Hersey & Son Co.	Apr. 1, 1936
448	Squaw Island Road, Barnstable,—stone jetties .	Frederick V. Lawrence .	Sept. 4, 1935
450	Onset Bay, Wareham,—dredging	Herbert T. Gerrish .	Oct. 4, 1935
451	Plymouth Harbor,—dredging	Bay State Dredging and Contracting Co.	Oct. 4, 1935
452	Smith's Cove, Gloucester,—dredging . . .	J. S. Packard Dredging Co.	Oct. 4, 1935
453	Manchester Harbor,—dredging	Bay State Dredging and Contracting Co.	Oct. 4, 1935
454	Scituate Harbor,—dredging	Bay State Dredging and Contracting Co.	Oct. 4, 1935
455	Menamsha Creek, Chilmark and Gay Head,—dredging.	Bay State Dredging and Contracting Co.	Oct. 4, 1935
457	Commonwealth Pier 5,—reconstruction of platforms.	Merritt-Chapman & Scott Corp.	Dec. 13, 1935
458	Commonwealth Pier 5,—dredging approach . .	J. S. Packard Dredging Co.	Mar. 3, 1936
459	Boston Harbor,—dredging area between Cunard Docks and Main Ship Channel	Bay State Dredging and Contracting Co. .	Feb. 25, 1936
460	Hither Creek, Nantucket,—dredging channel and basin.	Herbert T. Gerrish .	Apr. 1, 1936
461	Lake Anthony, Oak Bluffs,—dredging channel and basin.	Herbert T. Gerrish .	Apr. 1, 1936
462	Weymouth Fore River, Quincy and Weymouth,—dredging.	J. S. Packard Dredging Co.	Apr. 7, 1936
463	Commonwealth Pier 5, South Boston reconstruction of platforms and pile protection at Head House.	Bay State Dredging and Contracting Co.	July 14, 1936
464	Provincetown Harbor,—dredging	Bay State Dredging and Contracting Co.	June 2, 1936
465	Cotuit Harbor, East Bay, Lewis Bay, Barnstable,—dredging.	Bay State Dredging and Contracting Co.	July 1, 1936
466	Houghs Neck, Quincy,—dredging	Bay State Dredging and Contracting Co.	June 19, 1936
467	Popponesset Bay, Barnstable,—dredging channel and basin.	Herbert T. Gerrish .	July 21, 1936
468	Waquoit Bay, Falmouth,—stone jetty.	Frederick V. Lawrence .	Oct. 27, 1936
469	Winthrop,—dredging basin at Pleasant Park Yacht Club and channel and basin at Cottage Park Yacht Club.	Bay State Dredging and Contracting Co.	July 21, 1936

AND IN FORCE DURING THE YEAR ENDING NOVEMBER 30, 1936

Condition of Work	Contract Price
Completed June 1, 1936	For dredging and disposing of the excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barrier, 56 cents for each cubic yard measured in place.
Completed July 1, 1936	For removing and disposing of all boulders, \$20 per cubic yard. For dredging and disposing of excavated material on land, flats or at sea, 43 cents for each cubic yard measured in place.
Completed Jan. 30, 1936	For removing and disposing of all boulders, \$20 for each cubic yard. For dredging 60 cents per cubic yard measured in place. For removal of boulders \$5 per cubic yard.
Completed June 16, 1936	For building pier and bulkhead, — unit prices. For furnishing material and constructing concrete sea wall, including all excavation, back filling, removing old walls, crib work, steps, drains and cess-pools and all incidental work, \$9.90 for each cubic yard of concrete measured in the completed work. For furnishing and placing stone riprap and granite chips in the jetties \$3 for each ton of 2,000 pounds.
Completed Sept. 30, 1936	Unit prices.
Completed Dec. 21, 1935	For furnishing and placing granite stone riprap and chips in the jetties, \$2.84 for each ton of 2,000 pounds.
Completed Apr. 16, 1936	For removing and disposing of boulders, \$20 per cubic yard. For dredging and disposing of the excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barrier, 51.5 cents per cubic yard, measured in place.
Completed Dec. 11, 1935	For dredging and disposing of dredged material 54.5 cents per cubic yard, scow measurement.
Completed Dec. 23, 1935	For removing and disposing of boulders, \$20 per cubic yard. For dredging and disposing of the dredged material 54 cents per cubic yard, scow measurement.
Completed Dec. 28, 1935	For removing and disposing of boulders, \$25 per cubic yard. For dredging and disposing of the dredged material 49.8 cents per cubic yard, scow measurement.
Completed Dec. 19, 1935	For removing and disposing of boulders, \$20 per cubic yard. For dredging and disposing of the dredged material, 56.3 cents per cubic yard, scow measurement.
Completed Dec. 13, 1935	For removing and disposing of boulders \$20 per cubic yard. For dredging and disposing of excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barriers, 54 cents for each cubic yard measured in place.
In progress	For removing and disposing of boulders, \$20 per cubic yard. Unit prices.
Completed May 18, 1936	For dredging and disposing of dredged material 49.75 cents per cubic yard, scow measurement.
Completed June 26, 1936	For removing and disposing of boulders \$20 per cubic yard. For dredging and disposing of dredged material, 48.5 cents per cubic yard, scow measurement.
In progress	For removing and disposing of boulders, \$20 per cubic yard.
Completed Nov. 10, 1936	For dredging and disposing of the excavated material on marsh and flats by the hydraulic process, including the construction of the necessary dikes, and sluices or other barriers, 55 cents for each cubic yard of material measured in place. For dredging and disposing of the excavated material back of the new bulkhead or on marsh or flats by the hydraulic process, including the construction of the necessary dikes and sluices or other barriers, 50 cents for each cubic yard of material measured in place.
Completed July 31, 1936	For removing and disposing of all boulders, \$20 for each cubic yard. For dredging and disposing of the dredged material 46 cents for each cubic yard, scow measurement.
In progress	For removing and disposing of boulders, \$20 per cubic yard.
Completed July 25, 1936	For removing existing platform, including piling and other structures, including all incidental work, the lump sum of \$4,500.
In progress	Unit prices.
Completed July 23, 1936	For dredging and disposing of the dredged material 64 cents for each cubic yard, measured in scows.
In progress	For dredging and disposing of dredged material 81 cents per cubic yard, scow measurement.
In progress	For removing and disposing of boulders \$20 per cubic yard.
Completed Sept. 11, 1936	For dredging and disposing of dredged material 49.5 cents per cubic yard, scow measurement. For removing and disposing of boulders \$20 per cubic yard. For dredging and disposing of excavated material on marsh and flats by the hydraulic process, including the construction of the necessary dikes and sluices or other barriers, 52 cents for each cubic yard of material measured in place.
In progress	For removing and disposing of all boulders \$20 for each cubic yard.
In progress	For each ton of heavy stone riprap and stone chips furnished in place in the completed work, \$3.24.
Completed	For dredging and disposing of dredged material at Ingleside Park, Winthrop, by the hydraulic process, including the construction of necessary dikes and sluices or other barriers, 68.5 cents for each cubic yard, measured in place.
In progress	For removing and disposing of boulders, \$20 for each cubic yard.

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
470	Manchester Harbor,—dredging	J. S. Packard Dredging Co.	Sept. 8, 1936
471	Plymouth State Pier,—approach	John F. Shea Co., Inc. .	Aug. 11, 1936
472	Oak Bluffs,—riprap and filling at bulkhead at High-lands.	Frederick V. Lawrence .	Aug. 11, 1936
473	Pilgrim Beach, Truro,—stone jetties	George M. Bryne . . .	Aug. 26, 1936
474	Harwichport,—shore protection	H. & J. Construction Co.	Sept. 8, 1936
475	Megansett Harbor, Falmouth,—stone breakwater .	George M. Bryne . . .	Sept. 8, 1936
476	Dennisport Shore,—stone jetties	H. & J. Construction Co.	Sept. 22, 1936
477	South Yarmouth Beach,—stone riprap	J. W. Nickerson . . .	Oct. 6, 1936
478	Falmouth Shore protection,—opposite Shore Street	Turner & Breivogel .	Oct. 6, 1936
479	Roughan's Point, Revere,—sea wall	M. F. Gaddis, Inc. .	Nov. 17, 1936
482	Harwichport,—stone jetties	Frederick V. Lawrence .	Nov. 17, 1936
483	West Chop, Tisbury,—shore protection	Frederick V. Lawrence .	Nov. 25, 1936

AND IN FORCE DURING THE YEAR ENDING NOVEMBER 30, 1937

Condition of Work	Contract Price
In progress	For dredging and disposing of dredged material 55 cents per cubic yard, scow measurement.
Completed	For removing and disposing of boulders \$20 per cubic yard.
Sept. 11, 1936	For furnishing material and filling back of bulkhead and depressions in the approach, including all necessary grading, excavation and incidental work, \$1 for each cubic yard of filling measured in place in the completed work.
	For resetting granite curbing, furnishing and setting new granite curbing, including all materials, excavation, back fill, loam and all incidental work, the lump sum of \$140.
	For furnishing, splicing, bolting, fastening with drift pins, blocking and constructing timber cap, completed in place, the lump sum of \$240.
	For furnishing all materials, equipment and incidental work in placing bituminous concrete surface in approach completed in place \$1 for each square yard of bituminous concrete surface in place.
Completed	For each ton of heavy stone riprap furnished in place in the completed work, including all incidental work, \$5.23.
Oct. 28, 1936	For furnishing material and filling bank in back of bulkhead, including all incidental work, 90c for each cubic yard of fill measured in place in completed work.
Completed	For furnishing and placing granite stone riprap and granite chips in jetties, including all incidental work, \$4.73 for each ton of 2,000 pounds in the completed work.
Nov. 11, 1936	For furnishing and placing granite stone riprap and chips in the jetties, \$3.90 for each ton of 2,000 pounds.
In progress	For furnishing crane, operator, two men and all incidental work in rebuilding two jetties, \$10 per hour for crane, operator and two men.
In progress	For each ton of heavy stone riprap furnished in place in completed work, \$3.45 for each ton of 2,000 pounds.
In progress	For furnishing and placing granite stone riprap and chips in the jetties, including all incidental work, \$3.75 for each ton of 2,000 pounds.
In progress	For each ton of stone riprap and stone chips furnished and placed in completed work, \$2.99 for each ton of 2,000 pounds.
In progress	For steel sheet piling furnished and driven in completed work, \$74.01 for each ton of steel sheet piling.
	For all reinforcing steel furnished and placed in concrete cap 7.8 cents for each pound.
	For furnishing material and constructing concrete cap, including all incidental work, \$17.29 for each cubic yard of concrete measured in place in the completed work.
In progress	For furnishing and driving steel sheet piling, \$80 for each ton in completed work.
	For furnishing materials for constructing concrete sea wall and stair wells including forms, tie rods, steel reinforcement, excavation and all incidental work, \$15 for each cubic yard of concrete.
	For furnishing and placing granite stone riprap and chips against sea side of sea wall, \$2.20 for each ton of 2,000 pounds in place in completed work.
	For furnishing materials for filling in place back of sea wall, including all incidental work, 60 cents for each cubic yard measured in place in completed work.
	For furnishing and setting each granite stone step in place, including all incidental work, \$18 for each step in place in completed work.
In progress	For furnishing and placing granite stone riprap and chips in the jetties, \$3.15 for each ton of 2,000 pounds.
In progress	For each ton of 2,000 pounds of stone riprap or chips furnished in place in the completed work, \$5.10.

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The Commonwealth of Massachusetts

EIGHTEENTH ANNUAL REPORT

OF THE

DEPARTMENT OF PUBLIC WORKS

YEAR ENDING NOVEMBER 30, 1937

*To the Honorable Senate and House of Representatives
of the Commonwealth of Massachusetts:*

In accordance with the provisions of law, I have the honor, as Commissioner of Public Works, to submit the eighteenth annual report of the Department of Public Works for the year ending November 30, 1937.

The organization of the Department, as defined in Chapter 16, General Laws, Tercentenary Edition, was as follows:

Commissioner of Public Works — WILLIAM F. CALLAHAN

Associate Commissioner — RICHARD K. HALE

Associate Commissioner — FRANK E. LYMAN to December 9, 1936;

—FRANK L. KANE beginning December 9, 1936.

Highway construction during the past year has been governed by what is believed to be sound methods of construction and correct principles of design.

The important trend in road design today has been dictated by consideration of the safety factor and this has involved the study of alignment, grades, curves, profiles and intersections. The elimination of sharp curvatures, the clearance between vehicles and the opportunity to pass overtaken vehicles, are items considered to aid in the elimination of hazards.

Road design for important routes provides for multiple lane highways, with wide traffic lanes, with wide center reservations separating opposing streams of traffic, grade separations at important intersections, long sight-distances and other safety factors and appropriate planting of roadsides. Refinements in road design have included improvements in road materials and methods of construction and workmanship, carefully selected subgrade materials, adequate pavement thickness, shoulder and slope finish—which are exemplified by recent construction.

It has been the aim of the Department to make improvements in the highway system deemed most urgent, and to insure that all such improvements shall be the result of definite lines of procedure. The endeavor has been made to coordinate all the phases of the Department's work, including right-of-way, the collection of adequate preliminary data for design as the basis for economic construction and the careful analysis of all conditions and the elimination of confusion in any part of the work for the purpose of avoiding changes in contracts after work has been started.

A survey of present roadbuilding materials indicates wide-spread developments and new methods of application and definite improvement in variety and quality. Laboratory and field experimentation has been conducted by the Department continuously on all construction and maintenance activities. The adaptability of local materials in combination with other products has been of importance in this state.

The task of modernizing the highway transport system necessitates the careful study of road service, materials, design and construction. It is also the aim to meet the requirements of tomorrow and to avoid the risk of early road obsolescence.

The trend in Massachusetts has been toward the construction of the higher type of road surface to meet the volumes and weight of traffic which results from the growing traffic demands.

During the fiscal year 1937 State highway construction and reconstruction included many important projects.

Work was completed on a link in the route connecting the Newburyport Turnpike with the Sumner Tunnel in Boston. The section constructed extends from the traffic circle at the intersection of Squire Road and Broadway in Revere to the Newburyport Turnpike in Saugus at its intersection with Felton Street. The design includes two 30-ft. roadways with the raised type of reservation in the center, and sidewalks on both sides. The project includes two traffic circles, a bridge over the Saugus Branch of the Boston & Maine Railroad, and a bridge and ramps at Lynn Street, Revere. The length of this project is $2\frac{3}{4}$ miles, and the cost approximately \$960,000.

From the northerly end of this project, the reconstruction of the Newburyport Turnpike in Saugus and Lynnfield, U. S. Route No. 1, was completed to a point just north of South Lynnfield Square for a distance of 4.8 miles at a cost of approximately \$1,700,000. The design provides for a divided highway with a 20-foot raised center reservation, on each side of which are three driving lanes totalling 34 feet, a 10-foot parking lane and a $12\frac{1}{2}$ -foot sidewalk area consisting of 4 feet of pavement and the remainder a grass plot. Four feet of the sidewalk area was paved for pedestrian use and the balance is loamed and seeded for grass. At four important intersections grade separations were constructed with connecting roadway ramps to connect with local roads. This is one of the most modern types of highway in the country.

From the northerly terminus of this Newburyport Turnpike project a section of the proposed Northern Circumferential Highway, the future replacement of the present Route 128, was completed to Andover Street in Peabody, a distance of about four miles, including bridge construction at its intersection with Lowell Street in Peabody to provide for traffic separation, at a total cost of approximately \$980,000.

The design is similar to that described for the Turnpike project. It includes two 23-foot pavements, separated by a 16-foot center plot, with graded areas nine feet in width on each side to provide for future widening. Sidewalks have been provided on either one or both sides, as deemed necessary.

South of the Cape Cod Canal, construction and reconstruction of the State highway in Bourne and in Eastham-Orleans, has been completed. In the former town a direct connection has been made between the traffic circle at the southerly end of the Bourne Bridge over the canal and a point further south, on Route 28. In Eastham and Orleans approximately three miles of Route 6, extending easterly from the junction of this route with Route 28, was reconstructed and widened.

In the southern section of the State, on Route 6, at the Dartmouth-Westport line, a long-needed alignment correction has been completed.

In the Connecticut Valley approximately four miles of U. S. Route 5, in Holyoke, has been widened and resurfaced. A sidewalk was constructed for the entire length on one side.

In central Massachusetts another section of the Worcester-Providence Turnpike has been completed for a distance of approximately two miles in the towns of Millbury and Sutton. The design is of the divided roadway type and consists of two 30-foot lanes. Traffic separation was afforded at the only important intersection encountered, by means of bridge and ramp construction.

Work is now under way on the proposed Concord-to-Westminster route, which will be the future Route 2. Approximately $2\frac{3}{4}$ miles in the cities of Leominster and Fitchburg are being graded under the present contract.

In western Massachusetts about two miles of Route 9 on Dalton Avenue in Pittsfield has been widened and resurfaced. The design includes separate roadways for opposite bound traffic, with a raised separating plot in the center. Sidewalks have been provided on one or both sides as considered necessary.

By means of Federal Works Program funds, certain town highways have been constructed on secondary routes. The Marshfield-Pembroke project provides a long-needed connection between Routes 3 and 3A, about five miles having been completed, with a surface of bituminous concrete 40 feet in width. The Attleboro-North Attleborough-Plainville project provided a long-needed direct connection between the city of Attleboro and Route 1 for Boston and northbound traffic. The length completed was 4½ miles, with the pavement 40 feet in width, with sidewalk construction on one side.

With the aid of the same funds a municipal highway approximately 1¼ miles was built on Springfield Street in the City of Holyoke.

Construction of railroad grade crossing eliminations was completed as follows:

Canton	On the N. Y., N. H. & H. R. R.	Dedham Street
Sharon		South Main Street
Sharon		Depot Street
Mansfield		Elm Street
Mansfield		School Street

Work is now under way at Union Street, Braintree and Cocasset Street, Foxborough. In Attleboro, on Route 1, replacement of an inadequate structure was made by the construction of a new steel stringer bridge with the necessary approaches.

On the Fitchburg Division of the Boston & Maine Railroad, work was completed on the elimination of grade crossings on Route 20 in Waltham, on West Main Street in Ayer and on Leominster Road in Lunenburg.

In Ashburnham, on Route 12, near the South Ashburnham station of the Boston & Maine Railroad, a crossing has been eliminated.

On the main line of the Boston & Albany Railroad in the vicinity of Old Flanders Road near the Hopkinton-Westborough line, and on Shrewsbury Street in Shrewsbury near the Grafton-Shrewsbury line, crossings have been eliminated. At Shrewsbury Street, in addition to the new bridge and approaches, a pedestrian underpass was provided. In Huntington, at the crossing of this railroad with Route 112, the construction now underway includes a multiple span steel bridge, which not only spans the railroad but the adjacent Westfield River.

On the Milford branch of the Boston & Albany Railroad at its junction with Route 109, further elimination has been accomplished.

In the city of Worcester, at the so-called Barbers Crossing, on Routes 110 and 12, elimination necessitated extensive relocation of the highway, construction of a steel bridge and a pedestrian underpass.

On Route 1, in Newbury, at the crossing with the tracks of the Boston & Maine Railroad, elimination has been accomplished with the construction of a steel and concrete bridge, with the necessary approaches.

Further elimination has been made in Sheffield on U. S. Route 7, where this route crosses the New York, New Haven and Hartford Railroad, also in the town of Monson on Route 132, at its intersection with the Central Vermont Railroad.

Bridge construction has been one of the important activities during the past year. The program has included seventy-eight (78) new structures built or contracted for, including sixty-six (66) bridges over waterways, seven (7) grade separations at railroad crossings.

The cost of this work has been provided in part from Federal funds and partly from flood relief funds provided by the Commonwealth.

Construction of important bridges with Federal cooperation was begun during the year as follows: the Hadley-Northampton Bridge and the Gill-

Montague Bridge over the Connecticut River; the Central Bridge, Lowell, over the Merrimac River; the Grade Crossing Elimination Projects in Braintree, Huntington and Milford; the reconstruction of the Slades Ferry Bridge over the Taunton River, under the provisions of Chapter 488, Acts of 1935.

Under the provisions of Chapter 90, General Laws, 166 miles of city or town highways were constructed and maintenance was provided on 1117 miles of such roads, involving a total expenditure of about \$4,300,000.

Under the provisions of Chapter 429, Acts of 1936, a total of 115 city and town bridges, destroyed by the floods of 1936, were reconstructed on the force account basis at an estimated cost of \$897,000.

The installation of traffic signals where necessary and the maintenance of those already installed on State highways have contributed to the safety in motor vehicle operation on the highways.

The necessity for approval by the Department of installations by local communities of traffic control matters results in uniformity.

Traffic studies conducted by the Department have been of particular value as indicating the necessity for improvements in the highway system and also in the matter of accident analysis, which in many cases reveal road conditions which may be improved to eliminate hazards. At present a comprehensive highway survey is being conducted to determine further data regarding all phases of highways and the service they render to the communities throughout the Commonwealth, which will be the basis for future designing of highways, and the Department has the cooperation of the Federal Government in this undertaking.

One of the most important services rendered has been the winter maintenance of highways. About 2000 miles of State highways and other important roads are included in the program of winter maintenance, involving the plowing of snow and ice control on these highways.

The Department also maintains about 9012 miles of town ways under the provisions of Section 26, Chapter 81, General Laws.

The Department has had supervision of highway work involving the expenditure of about \$18,000,000, including Federal funds, State appropriations and city and town contributions.

The Department has worked in cooperation with the Federal Road Authorities in the endeavor to carry forward practical highway science as the most satisfactory way to secure adequate highway transport.

Harbor improvements have included dredging the channel in Weymouth-Fore River Bridge, above Weymouth-Fore River Bridge, dredging in Malden River and other minor channels in Boston Harbor.

Outside of Boston Harbor dredging in numerous small harbors along the coast and shore protection has been completed at many locations.

Of particular interest is the construction of the new Gloucester Fish Pier, which is being constructed on the P.W.A. basis in cooperation with the Federal Government, which has allotted \$540,000 for this project to be used with the State's \$600,000 appropriated by the General Court. Upon completion, this pier and the buildings erected thereon will be leased for a term of years to the fish industry.

It is believed that the Department has achieved definite improvement in the methods of contract control, including improvement in specifications, and has advanced its knowledge of materials and methods of construction and maintenance gained through research and it has thereby advanced the science of roadbuilding, so that the Commonwealth will be assured of a high character of roadbuilding activities.

The engineering and clerical staff of the Department was as follows:

Chief Engineer, GEORGE H. DELANO

Highway Engineer, (Projects), FRANKLIN C. PILLSBURY¹

Highway Engineer, (Construction, State Highways)

RAYMOND W. COBURN

Highway Engineer, (Construction, Chapter 90 roads)

WILLIAM F. DONOVAN

Highway Engineer, (Maintenance), JAMES E. LAWRENCE

Highway Engineer, (Traffic), EDGAR F. COPELL

Bridge Engineer, GEORGE E. HARKNESS

District Highway Engineers:—

District No. 1, GEORGE A. CURTIS—Berkshire County and the towns of Worthington, Middlefield and Huntington in Hampshire County, and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2, H. D. PHILLIPS² W. G. BURNS³:—Franklin, Hampshire and Hampden Counties, with the following exceptions; three towns in Hampshire County included in District No. 1, and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON⁴ M. J. DALTON⁵—Worcester County and the towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN—Middlesex County.

District No. 5, JOSEPH A. MCCARTHY—Essex and Suffolk Counties.

District No. 6, H. O. PARKER—Norfolk and Bristol Counties.

District No. 7, JOHN E. TROY—Plymouth, Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer, for Boston Harbor—JOHN N. FERGUSON.

District Waterways Engineer, for harbors and waterways outside Boston Harbor—FRANCIS L. SELLEW.

Secretary, MARY A. RILEY.

Department Business Agent, FRED FAIR

Registry of Motor Vehicles

Registrar, FRANK A. GOODWIN.

Deputy Registrar, ANTHONY A. BONZAGNI

Assistant to the Registrar of Motor Vehicles., ALFRED W. DEVINE.

Chief Administrative Clerk, CHARLES R. GILLEY.

Chief Inspector of Motor Vehicles, ALBERT S. OLSSON.

A detailed report of the activities of the Department for the year is presented herewith.

WILLIAM F. CALLAHAN,
Commissioner of Public Works.

December 1, 1937.

SPECIAL REPORTS TO THE LEGISLATURE

The Department was authorized and directed by the Legislature to make certain investigations, and the reports thereon were made as follows:

Improving Harbor and Terminal facilities in the city of Fall River. Report made Dec. 2, 1936, by the Department of Public Works under Chapter 15, Resolves of 1936 (H 228 of 1937).

Construction of a breakwater and making other improvements for protection of the shore at Truro. Report made Dec. 2, 1936, by the Department of Public Works under Chapter 54, Resolves of 1936 (H 229 of 1937).

Relative to a State Highway over the route of the old Middlesex Turnpike so called from Maple St. in Lexington to North Chelmsford, including estimates of cost. Report made Dec. 2, 1936, by the Department of Public Works under Chapter 71, Resolves of 1936 (Sen. 35 of 1937).

¹ Died ... May 15, 1937

² Until ... June 30, 1937

³ Appointed ... July 1, 1937

⁴ Until ... June 30, 1937

⁵ Appointed ... July 1, 1937

RECOMMENDATIONS FOR LEGISLATION

The Commissioner of Public Works presented to the State Secretary on December 1, 1937, as required by law, that part of the current annual report which contains recommendations or suggestions for legislative action as follows:

1. In order to avoid confusion in the matter of liens on contracts for Public Works it has become evident that the provisions of law relating to liens on State Public Works contracts, as incorporated in Section 39, Chapter 30, General Laws, should likewise be made applicable to county or municipal public works contracts. It is, therefore, recommended that an amendment be made to Section 29, Chapter 149, General Laws, to provide for this, so that rental of vehicles, tools, and other appliances may become a lienable item on county and municipal contracts as well as on State Public Works contracts.

In order to expedite the work of the Department including the construction, reconstruction and maintenance of state highways and improvement of town and county ways under the provisions of Chapters 81 and 90, General Laws, with funds appropriated annually, it is respectfully suggested that such appropriations for the work of this Department be made at an early date in the legislative session in order to take advantage of the construction season and to complete as much as possible of the contract work within the fiscal years for which funds are appropriated. This would also facilitate the early allotment of funds for work under Chapter 90.

Also, the early passage of appropriations for Waterways projects, including river and harbor work would make possible conduct of such work, particularly at locations which are at summer resorts, prior to the yachting season, so that communities may derive the benefits from such expenditures during the year in which they are made.

2. The Department believes that authorization should be given the Department to cooperate with the United States Geological Survey in making a survey of the geological resources of the Commonwealth. Such data would be of great value to the Department in locating deposits of sand, gravel and other road-building materials, as well as of frequent use for other State departments. It is recommended that an annual appropriation of \$10,000 be made in connection with the making of a geological map which is now in progress.

3. The Department is contemplating the extension and ultimate construction of many main thoroughfares, such as the Concord-Westminster road, Boston-Connecticut, Worcester Turnpike, Lowell Turnpike, Beverly-Gloucester, and others. It becomes increasingly evident as our work progresses that the indiscriminate access from abutting property to and from state highways is increasing the danger to travel on these important through routes. Many states are enacting laws which provide that the thoroughfare so laid out shall be in a special class so that the abutting property shall have no rights of access to or from the thoroughfare. Such a right has been conferred upon railroads in constructing their lines across country and also on many of our park departments in their taking of reservations and in the construction of roads therein.

It is recommended that careful consideration be given to this problem.

4. The repair of the Slades Ferry bridge, so called, over the Taunton River, between the city of Fall River and the town of Somerset, provided for by Chapter 488, Acts of 1935, and carried out to date, indicates that certain necessary other work must be done to make the bridge safe and adequate for public travel and use for highway purposes than is possible with the amount of funds (\$225,000) authorized by this act. It is estimated that an additional amount of \$20,000 is required for the purpose of providing automatic machinery for operating the traffic gates, for the installation of traffic lights and roadway lighting equipment and for the cleaning and painting of the old part of the structure.

5. The regulation and control of billboards, signs and other advertising devices is provided for at the present time by Rules and Regulations adopted by the Department on January 24, 1924, under the provisions of Section 29, Chapter 93, General Laws. However, under a recent Supreme Court decision in various suits brought for the purpose of controlling Accessory Use Signs, it appears that at the present time there is no jurisdiction over these Accessory Use Signs, which are clearly exempted under Section 30, Chapter 93 of the present advertising laws.

The Supreme Court in a decision declared that although the present law allowed evasions, it was the duty of the legislature and not the courts to determine what additions to the statute would best remedy the situation.

It is recommended that legislation be passed to provide under Section 21, Chapter 40, General Laws, for the regulation of the size, number, and location of billboards, signs, and other advertising devices which are located on the establishments wherein the business is conducted, as well as those signs which advertise the property itself, or any part thereof, as "For Sale" or "To Let".

Although different cities and towns would have different ideas concerning the extent to which they wish to exercise jurisdiction over signs, this legislation would enable a particular town, if it wished, to control the problem which is reaching large proportions in many cases.

APPROPRIATIONS

Chapter 234, Acts of 1937, making appropriations for the maintenance of departments, boards, commissions, institutions and certain activities of the Commonwealth, etc., is, in part, as follows:—

Item	<i>Requirements for Extinguishing the State Debt.</i>	
225.	For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of five million four hundred two thousand seven hundred twenty-two dollars and eighty-three cents, payable from the following accounts and funds in the following amounts:—from the Highway Fund, five million sixty-eight thousand three hundred eighty-nine dollars and fifty cents; and the remainder from the General Fund	\$5,402,722 83
	<i>Interest on the Public Debt.</i>	
226.	For the payment of interest on the direct debt of the commonwealth, a sum not exceeding eight hundred sixty-eight thousand two hundred thirty-two dollars, of which sum five hundred sixty thousand six hundred sixty-six dollars and twenty-five cents shall be paid from the Highway Fund	868,232 00
	<i>Service of the Department of Banking and Insurance.</i>	
	Division of Insurance:	
314.	For other personal services of the division, including expenses of the board of appeal and certain other costs of supervising motor vehicle liability insurance, a sum not exceeding two hundred thirty-six thousand dollars, of which sum not more than thirty-five thousand dollars may be charged to the Highway Fund	236,000 00
	<i>Service of the Department of Corporations and Taxation.</i>	
	Corporations and Tax Divisions:	
320.	For the salaries of certain positions filled by the commissioner, with the approval of the governor and council, and for additional clerical and other assistance, a sum not exceeding two hundred forty-nine thousand dollars, of which sum not more	

than fifty thousand dollars may be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so called, and not more than fifty thousand dollars may be payable from fees collected under section twenty-seven of chapter one hundred and thirty-eight of the General Laws, as amended, to cover the estimated cost of collection of alcoholic beverages taxes, so called \$249,000 00

Service of the Department of Mental Diseases.

Division of Mental Hygiene:

For the maintenance of and for certain improvements at the following institutions under the control of the Department of Mental Diseases:

518. For the construction of roads within the property of the Monson state hospital, a sum not exceeding fifteen thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose, and the letting of the contract and the work of construction to be done under the supervision of the state department of public works 15,000 00

Service of the Department of Public Safety.

Division of State Police:

644. For the salaries of officers, including detectives, a sum not exceeding five hundred forty-nine thousand dollars, of which sum not more than two hundred thousand dollars may be charged to the Highway Fund 549,000 00
646. For other necessary expenses of the uniformed division, including traveling expenses of detectives, a sum not exceeding four hundred sixteen thousand dollars, of which sum not more than one hundred fifty thousand dollars may be charged to the Highway Fund 416,000 00

Service of the Department of Public Works.

The appropriations made in the following four items are to be paid three quarters from the Highway Fund and one quarter from the Port of Boston receipts:

663. For the salaries of the commissioner and the associate commissioners, a sum not exceeding nineteen thousand five hundred dollars 19,500 00
664. For personal services and clerks and assistants to the commissioner, a sum not exceeding eleven thousand one hundred dollars 11,100 00
665. For traveling expenses of the commissioners, a sum not exceeding two thousand dollars 2,000 00
666. For telephone service in the public works building, a sum not exceeding thirty thousand dollars 30,000 00

Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):

667. For the maintenance and operation of the public works building, a sum not exceeding one hundred thirty thousand dollars 130,000 00

Item

668.	For the salaries of guards for the public works building, a sum not exceeding thirty-five thousand dollars	\$35,000 00
669.	For personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding ninety-seven thousand dollars	97,000 00
670.	For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, and for the expense of membership of the department in the American Association of State Highway Officials, a sum not exceeding seventeen thousand dollars	17,000 00
671.	For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding twelve thousand five hundred dollars	12,500 00
672.	For the construction and repair of town and county ways, a sum not exceeding two million five hundred thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	2,500,000 00
673.	For aiding towns in the repair and improvement of public ways, a sum not exceeding one million four hundred fifty thousand dollars	1,450,000 00
674.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, a sum not exceeding two million eight hundred thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	2,800,000 00
675.	For the purpose of enabling the department of public works to secure federal aid for the construction and reconstruction of highways, including bridges, a sum not exceeding two million three hundred thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose :	2,300,000 00
676.	For administering the law relative to advertising signs near highways, a sum not exceeding twenty-one thousand dollars, to be paid from the General Fund	21,000 00
677.	For expenses of a topographical survey and map of the commonwealth, in addition to funds received from federal appropriations or private subscriptions, a sum not exceeding fifty thousand dollars	50,000 00

Registration of Motor Vehicles :

678.	For personal services, a sum not exceeding one million eighty thousand dollars, of which sum fifteen thousand dollars may be charged to the General Fund, and the remainder shall be paid from the Highway Fund	1,080,000 00
679.	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same and for work incidental to the registration and licensing of owners and operators of motor vehicles,	

	a sum not exceeding four hundred eighty thousand dollars, to be paid from the Highway Fund .	\$480,000 00
680.	For printing and other expenses necessary in connection with publicity for certain safety work, a sum not exceeding one thousand dollars .	1,000 00
	Functions of the department relating to waterways and public lands:	
681.	For personal services of the chief engineer and assistants, a sum not exceeding fifty-eight thousand dollars .	58,000 00
682.	For services other than personal, including printing pamphlet of laws and the annual report, and for necessary office and engineering supplies and equipment, a sum not exceeding sixteen hundred dollars .	1,600 00
683.	For the care and maintenance of the province lands and of the lands acquired and structures erected by the Provincetown tercentenary commission, a sum not exceeding five thousand dollars .	5,000 00
684.	For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds, a sum not exceeding twenty-two thousand five hundred dollars .	22,500 00
685.	For the improvement, development and protection of rivers and harbors, tide waters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, and of great ponds, a sum not exceeding one hundred thousand dollars, and any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered .	100,000 00
686.	For re-establishing and permanently marking certain triangulation points and sections, as required by order of the land court in accordance with section thirty-three of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, a sum not exceeding one thousand dollars .	1,000 00
687.	For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding five hundred dollars .	500 00
688.	For the operation and maintenance of the New Bedford state pier, a sum not exceeding twelve thousand dollars .	12,000 00
689.	For the compensation of dumping inspectors, a sum not exceeding fifteen hundred dollars .	1,500 00
690.	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding five thousand dollars .	5,000 00

Item	
691. For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding thirty-five hundred dollars	\$3,500 00
692. For the operation and maintenance of the Cape Cod Canal pier, a sum not exceeding forty-five hundred dollars	4,500.00
694. For certain expenditures on account of the reconstruction of a pier at Plymouth, the sum of fourteen hundred sixty-six dollars and twenty-seven cents, the same to be in addition to any amount heretofore appropriated for the purpose Functions of the department relating to Port of Boston (the following items are to be paid from the Port of Boston receipts):	1,466 27
695. For the construction of railroads and piers and for the development of certain land, a sum not exceeding nine thousand dollars	9,000 00
696. For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred eleven thousand one hundred dollars	111,100 00
697. For the maintenance of pier one, at East Boston, a sum not exceeding four thousand dollars	4,000 00
698. For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding ninety thousand dollars	90,000 00
699. For dredging channels and filling flats, a sum not exceeding ninety thousand dollars, the same to be in addition to any unexpended balance of the appropriation made for the purpose in the previous year	90,000 00

Miscellaneous

The following items are to be paid from the Highway Fund, with the approval of the metropolitan district commission:

722. For maintenance of boulevards and parkways, a sum not exceeding six hundred ninety-eight thousand eight hundred and twenty dollars	698,820 00
723. For resurfacing of boulevards and parkways, a sum not exceeding two hundred seventy-five thousand dollars	275,000 00
724. For expense of supplies and services necessary for procuring Works Progress Administration funds, a sum not exceeding eight thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	8,000 00
725. For the cost of installations necessary for additional street lighting, a sum not exceeding thirty-two thousand dollars	32,000 00
726. For maintenance of Wellington bridge, a sum not exceeding thirty-four hundred dollars	3,400 00

Unclassified Accounts and Claims

For certain other aid:

732. For the compensation of certain public employees for injuries sustained in the course of their em-	
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ployment, for present and previous years, as provided by section sixty-nine of chapter one hundred and fifty-two of the General Laws, as amended, a sum not exceeding one hundred thousand dollars, of which sum not more than fifty-five thousand dollars may be charged to the highway Fund . \$100,000.00

DEFICIENCIES.

For deficiencies in certain appropriations of previous years, in certain items, as follows:

Service of the Department of Public Works.

For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, the sum of eighty-six dollars and thirty-five cents, to be paid from the Highway Fund .	86 35
For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, the sum of nine thousand thirty-four dollars and ninety cents, to be paid from the Highway Fund .	9,034 90

SECTION 3. No liabilities in excess of appropriations provided for under this act shall be incurred by any department or institution, except in case of emergency, and then only upon the prior written approval of the governor and council. The state comptroller is hereby directed to send a copy of this section to each departmental, divisional and institutional head immediately following the passage of this act, together with a copy of suitable regulations relative to applications for transfers from the appropriation for extraordinary expenses as provided by section eight of chapter six of the General Laws.

SECTION 5. No payment shall be made or obligation incurred under authority of any special appropriation made by this act for construction of public buildings or other improvements at state institutions until plans and specifications have been approved by the governor, unless otherwise provided by such rules and regulations as the governor may make.

SECTION 6. No expenses incurred for mid-day meals by state employees, other than those who receive as part of their compensation a non-cash allowance in the form of full or complete boarding and housing, and those employees who are stationed beyond commuting distance from their homes for a period of more than twenty-four hours, shall be allowed by the commonwealth.

SUPPLEMENTARY APPROPRIATIONS

Chapter 434, Acts of 1937, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows:—

SECTION 1. To provide for supplementing certain items in the general appropriation act, and for certain new activities and projects, the sums set forth in section two, for the particular purposes and subject to the conditions stated therein, are hereby appropriated from the general fund or ordinary revenue of the commonwealth, unless some other source of revenue is expressed, subject to the provisions of law regulating the disbursement of public funds and the approval thereof.

SECTION 2.

Item

Service of the Department of Public Works.

Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):

667.	For the maintenance and operation of the public works building, a sum not exceeding thirty-five hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose	\$3,500 00
672.	For the construction and repair of town and county ways, a sum not exceeding two hundred thousand dollars, the same to be in addition to any amount heretofore appropriated therefor	200,000 00
674.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, a sum not exceeding three hundred and fifty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	350,000 00
675.	For the purpose of enabling the department of public works to secure federal aid for the construction and reconstruction of highways, including bridges, a sum not exceeding three hundred and fifty thousand dollars, the same to be in addition to any amount heretofore appropriated therefor	350,000 00
676.	For administering the law relative to advertising signs near highways, a sum not exceeding four thousand dollars, to be paid from the General Fund and to be in addition to any amount heretofore appropriated for the purpose	4,000 00
Registration of Motor Vehicles:		
679.	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding thirteen thousand dollars, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose	13,000 00
Functions of the department relating to waterways and public lands:		
693a.	For dredging at or near the public town wharf at Provincetown, a sum not exceeding four thousand dollars	4,000 00
Functions of the department relating to Port of Boston, the following items are to be paid from the Port of Boston receipts):		
696.	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding three thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	3,000 00

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|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 697. | For the maintenance of pier one, at East Boston, a sum not exceeding two thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose. | \$2,000 00 |
| 700. | For the cost of inspection of structures in tidewater within Boston harbor, a sum not to exceed three thousand dollars, the same to be in addition to any amount heretofore appropriated therefor | 3,000 00 |

Miscellaneous.

The following items are to be paid from the Highway Fund, with the approval of the metropolitan district commission:

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|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| 722. | For maintenance of boulevards and parkways, a sum not exceeding fourteen thousand three hundred and ninety-five dollars, the same to be in addition to any amount heretofore appropriated for the purpose | 14,395 00 |
| 724. | For expenses of supplies and services necessary for procuring Works Progress Administration funds, a sum not exceeding sixteen thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose | 16,000 00 |
| 726a. | For the purchase and erection of tablets for certain bridges, a sum not exceeding fifteen hundred dollars | 1,500 00 |

Other Appropriations

- | | | |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| 36c. | For an investigation relative to the improvement of conditions at Musquashiat pond in the town of Scituate, as authorized by chapter thirteen of the resolves of the present year, a sum not exceeding three thousand dollars | 3,000 00 |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|

DEFICIENCIES.

For deficiencies in certain appropriations of previous years, in certain items, as follows:

Service of the Department of Public Works.

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, the sum of forty-five dollars and sixteen cents, to be paid from the Highway Fund | 45 16 |
| For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, the sum of eighty-eight dollars and fifty-nine cents | 88 59 |

SECTION 3. The following amendments and transfers are hereby authorized in appropriations previously made:

Department of Public Works.

The appropriation made by Item 677 of chapter two hundred and thirty-four of the acts of the present year, for expenses of a topographical survey and map of the commonwealth, is hereby made in addition to the unexpended balance of any appropriation heretofore made for the purpose.

The unexpended balance of the appropriation made by Item 666e of chapter four hundred and ninety-seven of the acts of nineteen hundred and thirty-five, for expenditures for flood control of the Housatonic river, is hereby reappropriated.

The unexpended balance of the appropriation made by Item 638 of chapter two hundred and forty-five of the acts of nineteen hundred and thirty-one, as most recently reappropriated by chapter two hundred and forty-nine of the acts of nineteen hundred and thirty-five, for certain work in the Taunton river authorized by chapter four hundred and five of the acts of nineteen hundred and thirty, is hereby again reappropriated.

Chapter four hundred and twenty-nine of the acts of nineteen hundred and thirty-six, providing for repair or reconstruction of certain bridges damaged by recent floods, is hereby amended by adding at the end the following new section:—*Section 8.* The comptroller is hereby authorized to certify for payment liabilities incurred by the department in anticipation of the receipt of the assessments to be made in nineteen hundred and thirty-eight on certain cities, towns and counties, as authorized by this act.

FURTHER SUPPLEMENTARY APPROPRIATIONS

Chapter 445, Acts of 1937, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is in part, as follows:—

SECTION 1. To provide further for supplementing certain items in the general appropriation act, and for certain new activities and projects, the sums set forth in section two, for the particular purposes and subject to the conditions stated therein, are hereby appropriated from the general fund or ordinary revenue of the commonwealth, unless some other source of revenue is expressed, subject to the provisions of law regulating the disbursement of public funds and the approval thereof.

SECTION 2.

Item

36t. For an investigation relative to certain harbor improvements in the commonwealth, as authorized by chapter sixty-nine of the resolves of the present year, a sum not exceeding twenty-five hundred dollars

\$2,500 00

677a. For the meeting of payrolls and other compensation and expenses incurred by the department of public works as the agency of the commonwealth for the acquisition of lands, easements and rights of way and other duties, as provided in chapters three hundred and ninety-seven and four hundred and twenty-three of the acts of the present year, as amended, for flood control purposes in the Connecticut river valley and the Merrimack river valley, a sum not exceeding fifty thousand dollars, to be charged against receipts from the treasurers of the interstate compact commissions under the provisions of said chapters.

190a. For the compensation and incidental expenses of the members appointed to represent the commonwealth on the interstate compact commission relative to flood control of the Merrimack river, as authorized by chapter four hundred and twenty-three of the acts of the present year, as amended, a sum not exceeding four thousand dollars

4,000 00

190b. For the compensation and incidental expenses of the members appointed to represent the common-

	wealth on the interstate compact commission relative to flood control of the Connecticut river, as authorized by chapter three hundred and ninety-seven of the acts of the present year, as amended, a sum not exceeding four thousand dollars	\$4,000 00
726b.	For the reconstruction of a bridge and its approaches over the Mystic river in the city of Medford and the town of Arlington by the metropolitan district commission, as authorized by chapter four hundred and thirty-two of the acts of the present year, a sum not exceeding fifty-two thousand five hundred dollars, to be paid from the Highway Fund .	52,500 00

HIGHWAY FUND DIVERSION

Chapter 443, Acts of 1937, provided for the transfer of the proceeds of the gasoline tax from the Highway Fund to the General Fund, as follows:

Whereas, The deferred operation of this act would tend to defeat its purpose, therefore it is hereby declared to be an emergency law, necessary for the immediate preservation of the public convenience.

The state treasurer is hereby authorized and directed to transfer the sum of six million six hundred thousand dollars from the Highway Fund to the General Fund.

FINANCIAL STATEMENTS

Summary of Income, Year Ending November 30, 1937

HIGHWAY FUND

*(Section 34, Chapter 90, General Laws, as amended)**(See Chapter 288, Acts of 1925)*

Fees (for registration of motor vehicles, licenses to operate etc.) and fines (penalties, Sundry Courts) net receipts	\$6,842,163.87
Gasoline Tax, net	19,820,398.39
Contributions for highways and assessments (G. L. Ch. 81)	37,629.39
Appropriation balances of previous years reverting	97,557.89
Contributions and refunds	26,233.66
Sale of old materials and buildings	7,498.65
Reimbursement for repairs to guard rail and other property	7,720.69
Rent of property (Nursery)	194.00
Rental of space, Public Works Building	52,242.88
Slot Machine Receipts	231.15
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	\$26,891,870.57

PORT OF BOSTON FUND

(Chapter 91, General Laws)

Rents (leases and permits)	\$153,986.86
Reimbursement for services (inspection of dumping dredged material in Boston Harbor)	42.08
Use of Comlth Pier No. 5 (wharfage, dockage, rentals, etc.)	143,625.36
Use of Comlth Pier No. 1 (rentals, etc.)	4,381.50
Revenue from permits for dumping dredged material at receiving basins	105.42
License charges	17,124.58
Telephone Pay Station receipts	339.83
Sales of land	38,465.00
Refunds	8,719.48
Appropriation balances of previous years reverting	4,482.28
Hayward Creek (Rental \$1,875.00, sale of land \$78,550.00)	80,425.00
	<hr/>
	\$451,697.39

DEPARTMENT INCOME

(Ordinary Revenue)

Sales (specifications and plans for contracts \$3,994)	\$4,094.50
License charges	2,254.38
Certifying copying charges	80.00
Sales of Atlas sheets and miscellaneous plans	1,234.02
Use of Province Lands (S. 25, C. 91, G. L.)	353.00
Permits for advertising signs	11,756.60
Use of New Bedford State Pier	29,509.72
Use of Cape Cod Canal State Pier	4,795.55
Use of Plymouth State Pier	33.00
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	\$54,110.77

IMPROVEMENT OF RIVERS AND HARBORS TRUST

(Sections 11, 29, Chapter 91, General Laws)

Contributions from towns, individuals or others	\$59,790.00
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HIGHWAY TRUST

(Section 30, Chapter 81, G. L.)

Federal Aid (reimbursement from United States Government)	6,529,183.64
Contribution from City of Revere (Chapter 375-1934 and 487-1935)	92,990.06

FUNDS CONTRIBUTED FOR SPECIAL P. W. A. BANK ACCOUNT
PROJECTS

<i>PWA 1361D—Central Bridge Lowell</i>	
Federal aid (reimbursement from U. S. Government)	\$66,500.00
City of Lowell	60,993.00
County of Middlesex	60,993.00
	<hr/>
	188,486.00
<i>PWA 1286D—Anchorage Basin, Hull</i>	
Federal aid (reimbursement from U. S. Government)	36,610.00
Town of Hull	5,000.00
	<hr/>
	41,610.00
<i>PWA 1301D—Comm. Pier No. 5</i>	
Federal aid (reimbursement from U. S. Government)	166,645.49
<i>PWA 1308D—Vineyard Haven Harbor</i>	
Federal aid (reimbursement from U. S. Government)	7,455.51
	<hr/>
<i>Total</i>	\$34,483,839.43

EXPENDITURES

The expenditures by the Department under the provisions of General Laws and other acts and the appropriation acts, chapter 234, 434 and 445, Acts of 1937, during the fiscal year ending November 30, 1937 were as follows:

ADMINISTRATIVE

Commissioners, Associate Commissioners, Personal services of clerks, stenographers, and Commissioners' travel	\$29,801.30
Public Works Building, operation and maintenance	133,333.70
Public Works Building, telephone services	26,261.01
Public Works Building, Salaries of Guards	32,515.98
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<i>Total</i>	\$221,911.99

RELATING TO HIGHWAYS

<i>Personal Services—Chief Engineer, Clerks and Stenographers</i>	\$95,911.24
<i>State Highways (Chapter 81, G. L.)</i>	
General contract work	\$1,666,703.87
Engineering, salaries and miscellaneous	648,059.54
Highway testing laboratory	10,381.86
Investigation of Worcester Pike	360.64
Inspection of bituminous concrete pavement (Technical services)	3,175.74
Consultant's services	1,544.92
Planning survey	4,538.16

Fore River Bridge		
Substructure	\$116,670.42	
Superstructure	100,000.00	
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	216,670.42	
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		2,551,435.15
<i>Maintenance and Repair of State Highways</i> (Chapter 81, G. L.)		
<i>Reconstruction of State Highways</i>		
General contract work	\$23,798.51	
Engineering, salaries and miscellaneous	46,275.98	
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		70,074.49
<i>Ordinary Maintenance</i>		
General Maintenance	1,223,422.35	
Engineering, salaries and miscellaneous	382,381.49	
Highway testing laboratory	23,679.02	
Care and repair of road building machinery	397,269.20	
Removal of snow on highways	699,022.92	
Road planting and development	72,950.92	
Traffic engineering, signs and traffic count	199,243.61	
Paint manufacture	23,551.52	
Newburyport Bridge, Salisbury-Newbury- port, over Merrimack River, mainte- nance and operation	7,399.23	
Brightman St. Bridge, Fall River-Somer- set, maintenance and operation	15,550.42	
New Bedford-Fairhaven Bridge, Acushnet River, maintenance and operation	20,182.01	
Quincy-Weymouth Bridge, maintenance and operation	18,291.86	
Detour and route maps	1,827.87	
Geodetic survey	3,124.45	
Tractor repairs	7,891.03	
Inspection of bituminous concrete pave- ment (Technical service)	1,690.38	
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		3,097,478.28
<i>Construction of Town and County Ways</i> (Sec. 34 Chapter 90, G. L.)		
State's expenditures for work contracted for in cities and towns	\$2,016,517.67	
Engineering and expense (supervision)	571,917.77	
Inspection of bituminous concrete pave- ment (Technical services)	14,924.62	
Slade's Ferry Bridge	20,863.25	
Hull	84,212.28	
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		\$2,708,435.59
<i>Aiding Towns in the Repair and Improvement of Public Ways</i> (Sec. 26, Chap. 81, G.L.)		
State's expenditures for work contracted for in cities and towns	\$1,289,193.07	
Engineering and expense (supervision)	98,256.60	
	<hr/>	
		1,387,449.67
<i>Emergency Public Works Construction</i>		84,297.62
<i>Special Acts</i>		
<i>Incidentals</i> (printing, postage, supplies, etc.)		16,832.22
<i>Advertising signs, regulation of personal services and expenses</i>		27,252.06
<i>Highways in Metropolitan District</i> (Chap. 420, Acts of 1930 as amended by Chap. 450, Acts of 1931)		
Section 1, Canton, Dedham, Welesley, etc.	20.00	

Section 2, Canterbury St., Boston	10.00	
Section 3, Land Taking—Neponset River, Milton	7,769.48	
Section 4, West Roxbury-Brookline Parkway	36,850.00	
		44,649.48
<i>Abolition of Grade Crossings</i> (Chapter 417, Acts of 1930)		4,707.50
<i>Alewife Brook Parkway Extension</i> (Chapter 302, Acts of 1932)		8,401.89
<i>Traffic Circle Neponset River</i> (Chapter 341, Acts of 1934)		40.00
<i>Reconstruction of Ocean Ave., Revere</i> (Chapter 375, Acts of 1934)		51,785.86
<i>Central Bridge, Lowell</i> (Chap. 433, Acts of 1937)		131,488.73
<i>Suppression of Gypsy and Brown-tail Moths on State Highways in cities and towns</i>		12,238.90
<i>Topographical survey and maps</i>		35,428.60
<i>Chap. 464—Acts of 1935—Bond Issue</i>		
Class 2, Construction of sidewalks	\$83,589.34	
Class 3, Hayden-Cartwright Act	2,383,908.46	
Class 4, Grade Crossing, etc	4,528,542.34	
		\$6,996,040.14
<i>Chap. 186, Acts of 1936—State Highway Flood Damage</i>		87,399.07
<i>Chap. 429, Acts of 1936—Construction of Certain Bridges</i>		1,220,379.45
<i>Total Expenditures for Highways</i>		\$18,631,725.94

SUMMARY OF EXPENDITURES RELATING TO WATERWAYS
FISCAL YEAR ENDING NOVEMBER 30, 1937

General Expenses	\$54,334.80
<i>Boston Harbor:</i>	
Development of Rivers and Harbors Chap. 464, Acts of 1935, Class 5)	282,662.42
Dredging and Filling	87,859.63
Maintenance and Operation Commonwealth Pier 5, South Boston	114,885.73
Maintenance and Operation Commonwealth Pier 1, East Boston	7,025.23
Maintenance of Property	79,797.62
Streets, Piers and Railroads	10,450.84
Structures in tide water, Boston Harbor, inspection of	10,083.78
<i>Outside Boston Harbor:</i>	
Cape Cod Canal Pier, operation and maintenance	4,470.91
Compensation of Dumping Inspectors	152.85
Development of Rivers and Harbors (Chap. 464, Acts of 1935, Class 5)	2,109.41
Gloucester Fish Pier, construction	349,056.27
Harbor improvements, study relative to	2,497.71
Improvement of Rivers and Harbors	207,535.80
Nantucket Sound (Chap. 374, Acts of 1935)	24,635.91
New Bedford Pier, operation and maintenance	8,064.87
Plymouth Property, expenses of	3,117.53
Plymouth Pier, reconstruction (Chap. 429, Acts of 1935)	6,716.25
Province lands, expenses of	4,917.37
Repairing Damage to shores	6,841.12
Roughans Point, Revere (Chap. 358, Acts of 1936)	140,498.60
Salisbury Beach, improvement of (Chap. 399, Acts of 1934)	104.00
Stream Gauging	5,000.00

P.D. 54	21
Structures in Tide Water, outside Boston Harbor	3,772.03
Topographical Survey	810.07
Town Boundaries, surveying	290.71
W.P.A. Grants, expenses in connection with (Chap. 432, Acts of 1936)	23,970.45
<i>Total</i>	<u>\$1,441,661.91</u>

EXPENDITURES RELATING TO THE REGISTRY OF MOTOR VEHICLES

Cost of Running the Registry of Motor Vehicles	\$1,577,788.09
Safety Work, Publicity	407.90
<i>Total</i>	<u>\$1,578,195.99</u>

SUMMARY OF EXPENDITURES BY DEPARTMENT FOR YEAR ENDING NOVEMBER 30, 1937

Administrative	\$221,911.99
Relating to Highways	18,631,725.94
Registry of Motor Vehicles	1,578,195.99
Relating to Waterways	1,441,661.91
<i>Total</i>	<u>\$21,873,495.83</u>

CO-OPERATIVE WORK—SUPERVISION OF EXPENDITURES

The Department has supervised the expenditures during the year by cities, towns and counties, under Chapter 81, General Laws, as amended, of approximately \$3,009,386.54 for co-operative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Department.

Financial statement verified.
Approved

GEO. E. MURPHY, *Comptroller*.

RELATING TO HIGHWAYS

GENERAL STATEMENT

State Highways.—During the year ending November 30, 1937, the Department laid out new State Highways amounting to 10.75 miles in 7 cities and towns. Under Chapter 81, General Laws, as amended by Chapter 427, Acts of 1931, 3.45 miles of State Highways were discontinued or abandoned. The total length of State Highways at the end of the year was 1894.45 miles.

Highways Constructed in 1937.—Construction has been completed on 13.814 miles of State Highway, 166.245 miles of highway under the Provisions of Section 34, Chapter 90, General Laws as amended, and 5.947 miles of highway under the Provisions of Special Acts, making a total of 186.006 miles completed during the year.

Of the above highways completed this year, the classification according to type of pavement is as follows:

0.099 Mile of Dual (Reinf. Conc. and Bit. Macadam)
33.138 Miles of Bituminous Macadam
55.885 Miles of Bituminous Concrete
44.580 Miles of Bituminous Concrete (Mixed in Place)
17.122 Miles of Gravel with Bituminous Treatment
14.766 Miles of Gravel
20.416 Miles of Penolithic

Resurfacing, Reconstruction and Widening of Highways.—During the year 4.401 miles of highway were widened but not resurfaced, and

16.984 miles of State Highway were resurfaced or reconstructed and widened. In addition to this work on which the surfacing has been completed, there are several miles of road in various stages of completion which are scheduled to be finished next year.

The Resurfacing or Reconstruction of State Highways in 1937 was divided into types as follows:

- 1.301 Miles of Reinforced Cement Concrete
- 0.151 Miles of Bituminous Macadam
- 12.723 Miles of Bituminous Concrete
- 2.809 Miles of Penolithic

Surveys, Plans and Estimates.—During the year ending November 30, 1937, preliminary surveys, plans and estimates were made as follows:

For State Highway Construction.—Reconnaissance surveys and plans in 2 cities and 7 towns, 25.9 miles; reconnaissance estimates in 21 towns, 79.82 miles; preliminary surveys in 6 cities and 9 towns, 12.146 miles; plans in 6 cities and 9 towns, 15.883 miles; preliminary estimates in 5 cities and 7 towns, 13.560 miles; lines and grades in 5 cities and 7 towns, 13.560 miles; and final surveys in 2 cities and 5 towns, 5.682 miles.

For State Highway Reconstruction.—Reconnaissance surveys and plans in 1 town, 0.5 mile; reconnaissance estimates in 1 city and 2 towns, 4.8 miles; preliminary surveys in 4 cities and 14 towns, 25.575 miles; plans in 4 cities and 13 towns, 24.782 miles; preliminary estimates in 2 cities and 2 towns, 3.789 miles; lines and grades in 2 cities and 2 towns, 3.789 miles; and final surveys in 3 cities and 4 towns, 10.591 miles.

For State Highway Maintenance.—Preliminary surveys in 2 cities and 2 towns, 2.396 miles; plans in 2 cities and 3 towns, 1.591 miles; preliminary estimate in 1 city, 0.199 miles; lines and grades in 1 city; 0.199 miles; and final surveys in 3 towns, 0.252 miles.

Under Section 34, Chapter 90, General Laws, as Amended.—Reconnaissance surveys and plans in 1 city and 11 towns, 12.7 miles; reconnaissance estimates in 1 city, 0.208 miles; preliminary surveys in 27 cities and 137 towns, 153.452 miles; plans in 26 cities and 168 towns, 157.392 miles; preliminary estimates in 27 cities and 251 towns, 299.061 miles; lines and grades in 28 cities and 252 towns, 318.689 miles; and final surveys in 9 cities and 45 towns, 36.263 miles.

Under the Provisions of Various Acts and Resolves.—Surveys, plans, estimates, lines and grades, and final surveys were made as follows:

Chapter 24, Resolves of 1937: 0.568 mile of estimate in one city.

Chapter 60, Resolves of 1937: 48 miles of estimates in 4 cities and 11 towns.

Chapter 429, Acts of 1936: 4.530 miles of preliminary surveys in 2 cities and 18 towns; 4.294 miles of plans in 2 cities and 13 towns; 4.986 miles of preliminary estimates in 2 cities and 33 towns; 4.986 miles of lines and grades in 2 cities and 33 towns; and 2.074 miles of final surveys in 1 city and 11 towns.

Chapter 433, Acts of 1936: 0.265 mile of preliminary surveys in 1 city; 0.227 mile of plans in 1 city; 0.104 mile of preliminary estimate in 1 city; and 0.104 mile of lines and grades in 1 city.

Chapter 464, Acts of 1935: 0.227 mile of preliminary surveys in 1 town; 0.227 mile of plans in 1 town; 0.194 mile of preliminary estimates in 1 city and 1 town; 0.194 mile of lines and grades in 1 city and 1 town; and 11.943 miles of final surveys in 3 cities and 9 towns.

Chapter 488, Acts of 1935: 0.189 mile of preliminary survey and plan in 1 town.

During the year the Massachusetts Geodetic Survey, which is a Works Progress Administration Project sponsored by the Massachusetts Department of Public Works, has made level, traverse, and triangulation surveys, and has established bench marks, traverse and triangulation stations as follows:

345 miles of second order leveling, including 334 bench marks, in 56 cities and towns.

427 miles of first order leveling, including 660 bench marks, in 74 cities and towns.

2672.3 miles of triangulation, including 100 permanent triangulation stations, in 85 cities and towns.

392 miles of traverses, including 338 permanent traverse stations, in 106 cities and towns.

103 new town and city maps were drawn and 110 town and city maps were redrawn.

Permits.—There were 808 permits issued during the year for opening or occupying State Highways for various purposes.

Engineering Advice to Other Departments.—Advice to Department of Mental Diseases; preliminary surveys in 1 town, 1.136 miles; plans in 1 town, 0.157 mile; preliminary estimates in 1 town, 0.150 mile; lines and grades in 1 town, 0.150 mile; and final surveys in 1 town, 0.568 mile.

Engineering Advice to Municipal Authorities.—The Department furnished engineering advice without charge to 13 cities and towns in accordance with the provisions of Section 1, Chapter 81, General Laws.

Approval of Specifications.—The Department approved during the year under the provisions of Section 7, Chapter 44, General Laws, as amended, specifications for the construction of roads in 10 cities and towns.

Planting of Trees on State Highways.—During the past year 803 trees were planted along roadsides making a total of 76,956 trees thus set out in the past thirty-three years. In addition there were planted throughout the State 2444 shrubs.

PETITIONS, MEETINGS AND HEARINGS

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, chapter 81, General Laws; appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 220 cases; on the matter of outdoor advertising in several towns and cities; on the matter of special regulations for motor vehicles in Melrose and Wellesley; on the matter of laying out a State highway in the towns of Petersham and New Salem under the provisions of Chapter 218 of the Acts of 1937; and on the matter of the elimination of grade crossings in Gardner, Worcester, North Adams and Milford.

Petitions were received and contracts signed during the year as follows:

	Petitions	Contracts
State Highways	4	3
Work under section 34, chapter 90, General Laws	—	552
Work under section 26, chapter 81, General Laws	177	177
Work under Special Acts	—	59
Elimination of Grade Crossings	—	6
Miscellaneous	—	11
Total	181	808

STATE HIGHWAYS

Petitions for State Highways

General Laws, chapter 81, section 4 (Tercentenary Edition), provides that—

“If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city or town, they may apply, by a written petition, to

the department, requesting that said way be laid out and taken charge of by the commonwealth."

Petitions under the aforesaid section have been received during the year as follows:—

SELECTMEN OF AGAWAM:—Road extending from the bridge at the Agawam-West Springfield line westerly to the dividing line between the towns of Agawam and Southwick (known as Auto Route 57). Received January 19, 1937.

SELECTMEN OF LYNNFIELD:—Road locally known as Locust Street, extending from Salem Street to the dividing line between the town of Lynnfield and the city of Peabody. Received May 13, 1937.

SELECTMEN OF CLINTON:—Road locally known as High Street, Water Street, Main Street and the West Boylston Road, extending from the dividing line between the towns of Lancaster and Clinton to the dividing line between the towns of Clinton and Sterling. Received July 12, 1937.

SELECTMEN OF ANDOVER:—Road locally known as Lowell Street, extending from Shawsheen Village to the dividing line between the towns of Andover and Tewksbury. Received September 10, 1937.

CONSTRUCTION OF STATE HIGHWAYS

(Chapter 81, General Laws, as amended)

The following contracts were entered into during the year for the construction of State highways, and work incidental thereto, in various municipalities:—

Dartmouth and Westport

December 15, 1936, contract made with J. A. Singarella Construction Corp., of Boston, for constructing about 1,750 feet of State highway on State Road in Dartmouth, and about 450 feet of State highway on the same road in Westport, and constructing a dam and appurtenant structures in Dartmouth at Westport Factory, the surface of the highway consisting of bituminous concrete. The proposal amounted to \$113,399.75. Work completed September 18, 1937. Expenditure during 1937, \$111,586.61.

Fitchburg-Leominster

July 27, 1937, contract made with A. G. Tomasello & Son, Inc., of Boston, for constructing about 8,665 feet of State highway on new location in Leominster, about 2,800 feet on new location and 2,080 feet on 5th Massachusetts Turnpike in Fitchburg. The proposal amounted to \$345,111.58. Work about two-thirds completed. Expenditure during 1937, \$237,439.05.

Sheffield

July 21, 1937, contract made with B. A. Gardetto, Inc., of Boston, for constructing about 418 feet of State highway on Ashley Falls Road in Sheffield, the surface consisting of bituminous macadam. The proposal amounted to \$6,611.65. Work about one-fourth completed. Expenditure during 1937, \$1,748.53.

EXPENDITURES FOR CONSTRUCTION OF STATE HIGHWAYS

The expenditures for the construction of State highways in various Counties during the year were:—

Barnstable	\$372,680.63	Middlesex	\$447,950.73
Berkshire	7,151.90	Norfolk	84,065.71
Essex	192,312.98	Plymouth	1,061.86
Franklin	10,325.73	Suffolk	782,912.20
Hampden	4,771.98	Worcester	381,917.26
Hampshire,	49,613.75		
Total			\$2,334,764.73

Details of the foregoing expenditures follow:—

Barnstable County.—Bourne, \$33,176.72; Eastham, \$279,432.79; Falmouth, \$64.44; Orleans, \$60,006.68.

Berkshire County.—Cheshire, \$231.22; North Adams, \$76.22; Otis, \$77.09; Pittsfield, \$6,767.37.

Essex County.—Essex, \$562.11; Gloucester, \$562.09; Lynn, \$268.38; Peabody, \$14,008.28; Saugus, \$176,802.20; Swampscott, \$109.92.

Franklin County.—Charlemont, \$284.42; Greenfield, \$1,001.59; Montague, \$9,039.72.

Hampden County.—Brimfield, \$28.02; Holyoke, \$4,743.96.

Hampshire County.—Easthampton, \$28.02; Hadley, \$24,168.59; Huntington, \$328.41; Northampton, \$24,168.60; So. Hadley, \$920.13.

Middlesex County.—Billerica, \$1,711.00; Chelmsford, \$1,711.00; Concord, \$1,032.01; Dracut, \$106.46; Framingham, \$289.99; Malden, \$432,513.30; Newton, \$3,221.90; Tewksbury, \$3,378.80; Wayland, \$3,636.06; Woburn, \$350.21.

Norfolk County.—Braintree, \$41.77; Brookline, \$6,286.30; Cohasset, \$2,720.75; Dedham, \$39,903.50; Milton, \$969.64; Quincy, \$14,022.37; Wellesley, \$6,099.01; Weymouth, \$14,022.37.

Plymouth County.—Duxbury, \$7.00; Scituate, \$385.22; Wareham, \$669.64.

Suffolk County.—Boston, \$146,349.34; Revere, \$636,562.86.

Worcester County.—Athol, \$1,365.81; Fitchburg, \$177,430.59; Leominster, \$172,649.87; Millbury, \$28,994.70; Sutton, \$5.42; Webster, \$1,120.66; West Boylston, \$350.21.

HIGHWAY IMPROVEMENTS AUTHORIZED BY SPECIAL ACTS

Flood Bridges

Chapter 429, Acts of 1936

The reconstruction of Massachusetts bridges which were damaged during the flood of 1935 was financed partly by federal funds and partly by funds contributed by the state, counties, cities and towns.

The federal funds were authorized under the Emergency Relief Appropriation Act of 1936, approved June 22, 1936. These funds were apportioned to the states by the Department of Agriculture acting through the Bureau of Public Roads. In the majority of cases federal funds provided for 75% of the cost of a project.

The remainder of the cost was borne by the state, counties, cities and towns. The non-federal funds for those projects which were on state highways were financed under the provisions of Chapter 186 of the Acts of 1936. The greater part of the projects however were not on state highways and these projects were financed under the provisions of Chapter 429 of the Acts of 1936.

In accordance with the provisions of Chapter 429 of the Acts of 1936, providing for the repair or reconstruction of certain bridges damaged by recent floods, the following contracts were entered into:—

Pepperell

Dec. 30, 1936, contract made with Coleman Bros. Corporation, of Boston, for constructing a steel stringer bridge of four spans with a concrete deck at Station 10 on Main Street, over the Nashua River, and the approaches thereto, the surface on the approaches consisting of bituminous macadam, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$69,544.90. Work completed Nov. 24, 1937. Expenditure during 1937, \$72,636.82.

Leominster

Feb. 2, 1937, contract made with G. Bonazzoli & Sons, of Bolton, for constructing a steel stringer bridge of three spans with a concrete deck at Mechanic Street, over the Nashua River, and the approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place,

and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$49,226.90. Work completed Nov. 24, 1937. Expenditure during 1937, \$40,496.58.

Erving-Montague

Feb. 9, 1937, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing a steel truss bridge with concrete deck at Station 4+85.50, over Millers River, and the approaches thereto, the surface on the approaches consistig of bituminnus macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$50,142.00. Work completed Sept. 1, 1937. Expenditure during 1937, \$32,760.49.

Lancaster

March 9, 1937, contract made with Richard White Sons, Inc., of West Newton, for constructing a steel stringer bridge of two spans with concrete deck on Center Bridge Road over Nashua River, and the approaches thereto, the surface on the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$43,960.30. Work completed Aug. 13, 1937. Expenditure during 1937, \$46,457.14.

Ludlow-Wilbraham

March 11, 1937, contract made with Mario Pandolf Company, Inc., of Needham, for constructing a two span continuous steel stringer bridge with a concrete deck between Ludlow and Wilbraham over the Chicopee River, and the approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place. The proposal amounted to \$64,950.15. Work about three-fourths completed. Expenditure during 1937, \$45,953.55.

Barre

March 30, 1937, contract made with E. Whitehead, Inc., of Worcester, for constructing a steel truss bridge with a concrete floor at South Barre over the Ware River, and the approaches thereto, the surface on the approaches consisting of broken stone and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$27,311.35. Work completed Nov. 26, 1937. Expenditure during 1937, \$23,649.80.

Dudley-Webster

April 20, 1937, contract made with G. Bonazzoli & Sons, of Hudson, for constructing a steel stringer bridge with concrete deck at Perryville over the Manexit River, and the approaches thereto, the surface on the approaches consisting of broken stone and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$18,853.50. Work completed Oct. 27, 1937. Expenditure during 1937, \$15,533.81.

Royalston

April 20, 1937, contract made with Marshall M. Day, of Athol, for constructing two steel pony truss bridges, one at King Street and the other at Baldwinville Road, over Millers River, and the approaches thereto, the surface on the approaches consisting of broken stone and tar mixed in place, and the surfaces on the bridges consisting of bituminous concrete. The proposal amounted to \$60,010.00. Work about one-fifth completed. Expenditure during 1937, \$12,545.68.

Bolton

April 20, 1937, contract made with Rendle Contracting Company, of Boston, for constructing a steel stringer bridge with concrete deck and precast concrete pile bents on Seven Bridge Road over Still River, and the approaches thereto, the surface on the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bitum-

inous concrete. The proposal amounted to \$23,443.00. Work about four-fifths completed. Expenditure during 1937, \$19,414.72.

Gardner-Templeton

April 20, 1937, contract made with Antonio Pandiscio, of Fitchburg, for constructing a steel stringer bridge with concrete floor on Templeton Road over Otter River, and the approaches thereto, the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$8,936.50. Work completed Oct. 18, 1937. Expenditure during 1937, \$6,439.51.

Lunenburg

April 21, 1937, contract made with John Moran, Inc., of Fitchburg, for constructing a steel stringer bridge with concrete deck on Townsend Harbor Road over Mulpus Brook, and the approaches thereto, the surface of the approaches consisting of bituminous treated gravel, and the surface of the bridge consisting of bituminous concrete. The proposal amounted to \$10,728.30. Work completed September 22, 1937. Expenditure during 1937, \$8,987.31.

Athol-Orange

May 18, 1937, contract made with John Iafolla Construction Co., of Dedham, for constructing a steel stringer bridge with a concrete deck at Pinedale over Lawrence Brook, and the approaches thereto, the surface of the approaches consisting of broken stone and tar mixed in place, and the surface of the bridge consisting of bituminous concrete. The proposal amounted to \$23,712.00. Work about four-fifths completed. Expenditure during 1937, \$19,624.45.

Sterling

May 18, 1937, contract made with Sebastiano Cali, of Fitchburg, for constructing a concrete slab bridge on Bridge Road over East Wachusett Brook, and the approaches thereto, the surface of the approaches consisting of broken stone and tar mixed in place, and the surface of the bridge consisting of bituminous concrete. The proposal amounted to \$11,836.05. Work completed October 16, 1937. Expenditure during 1937, \$10,652.65.

Ware

May 19, 1937, contract made with H. P. Cummings Construction Company, of Ware, for constructing a steel stringer bridge with a concrete deck at Gibbs Crossing over Ware River, and the approaches thereto, the surface of the approaches consisting of a penolithic type of pavement, and the surface of the bridge consisting of bituminous concrete. The proposal amounted to \$49,684.70. Work about three-fifths completed. Expenditure during 1937, \$30,836.52.

Northfield

May 19, 1937, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing a steel stringer bridge with concrete deck on Burnham Road over Mill Brook, and the approaches thereto, the surface on the approaches consisting of broken stone and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$23,021.70. Work completed Nov. 6, 1937. Expenditure during 1937, \$18,079.67.

Petersham

May 19, 1937, contract made with Basilio Petricca, of Pittsfield, for constructing a steel stringer bridge with concrete deck at Station 66+68.17, over Swift River (East Branch), and the approaches thereto, the surface on the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$27,606.00. Work completed Oct. 19, 1937. Expenditure during 1937, \$23,290.22.

Barre

May 19, 1937, contract made with John A. Gaffey & Son, of Medford, for constructing a steel stringer bridge with concrete deck on New Braintree Road over the Ware River, known as Powder Mill Bridge, and the approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$30,048.30. Work about one-half completed. Expenditure during 1937, \$16,641.72.

Hadley

June 1, 1937, contract made with Kelleher Corporation, of Montague, for constructing a concrete slab bridge on Main Street over Mill River, and the approaches thereto, the surface course on both bridge and approaches consisting of bituminous macadam. The proposal amounted to \$27,649.40. Work completed Nov. 2, 1937. Expenditure during 1937, \$24,864.23.

Ashfield

June 1, 1937, contract made with Kelleher Corporation, of Montague, for constructing a steel stringer bridge with concrete deck at Spruce Corner over Swift River, and the approaches thereto, the surface on the approaches consisting of bituminous treated gravel, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$17,741.00. Work completed September 25, 1937. Expenditure during 1937, \$15,103.45.

Palmer

June 1, 1937, contract made with B. A. Gardetto, Inc., of Boston, for constructing a concrete beam bridge on Main Street, and one on Church Street, both over the Ware River, and approaches thereto, the surface courses for the approaches to both bridges consisting of standard bituminous macadam, and the surface on both bridges consisting of bituminous concrete. The proposal amounted to \$76,227.10. Work about six-sevenths completed. Expenditure during 1937, \$63,260.32.

Ware

June 8, 1937, contract made with H. P. Cummings Construction Company of Ware, for constructing a steel stringer bridge with a concrete deck on Church Street over the Ware River, and approaches thereto, the surface on the approaches consisting of broken stone and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$44,291.20. Work about three-fourths completed. Expenditure during 1937, \$32,243.94.

Princeton-Sterling

June 15, 1937, contract made with Wachusett Engineering Co., of Fitchburg, for constructing a concrete slab bridge on Redemption Rock Trail over Keyes Brook between the towns of Princeton and Sterling, and approaches thereto, the surface on the approaches consisting of bituminous treated gravel, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$11,840.00. Work about five-sixths completed. Expenditure during 1937, \$10,064.08.

Hatfield

June 30, 1937, contract made with Kelleher Corporation, of Montague, for constructing a steel stringer bridge with concrete deck at station 5+54 on Bridge Street over Mill River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$40,118.00. Work about three-fourths completed. Expenditure during 1937, \$31,394.32.

Belchertown-Palmer

June 30, 1937, contract made with Frank T. Wescott, of North Attleborough, for constructing a steel stringer bridge of three spans, with a concrete deck, on Depot Street over Swift River, and approaches thereto, the surface on the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$54,312.25. Work about three-fifths completed. Expenditure during 1937, \$33,584.99.

Adams

June 30, 1937, contract made with Hubert W. Flaherty, of Adams, for constructing a steel stringer bridge with a concrete deck on Lime Street over the Hoosac River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$29,810.75. Work about one-half completed. Expenditure during 1937, \$16,097.72.

Colrain

June 30, 1937, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing three bridges as follows, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place: a concrete rigid frame bridge at the site of the Frank Herzig Bridge over West Branch of North River, a concrete beam bridge over an overflow at the site of the Frank Herzig Bridge and a concrete rigid frame bridge at the site of the Robert Hillman Bridge over the West Branch of the North River. The proposal amounted to \$46,360.40. Work about ten-elevenths completed. Expenditure during 1937, 40,354.25.

Orange

July 6, 1937, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing a steel stringer bridge, dam, sluice gates and pen-stock extension at Orcutt Brook on Warwick Road, and approaches, the surface on the approaches consisting of broken stone and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$25,498.50. Work about four-fifths completed. Expenditure during 1937, \$20,043.85.

Uxbridge

July 6, 1937, contract made with Richard White Sons, Inc., of Newton, for constructing a steel stringer bridge with concrete deck on Mendon Street over the Blackstone River, and approaches thereto, the surface on both the bridge and approaches consisting of bituminous concrete. The proposal amounted to \$51,527.30. Work about four-fifths completed. Expenditure during 1937, \$39,892.07.

Princeton

July 6, 1937, contract made with R. H. Newell Company, of Uxbridge, for constructing a steel stringer bridge with concrete deck on Roper's Saw Mill Road over Ware River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$10,358.00. Work completed October 30, 1937. Expenditure during 1937, \$8,312.56.

Holden

July 6, 1937, contract made with Charles A. E. LaRose, of Ware, for constructing a concrete beam and slab bridge on River Street over Quinapoxet River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place. The proposal amounted to \$15,584.10. Work completed November 20, 1937. Expenditure during 1937, \$12,669.46.

Charlemont-Shelburne-Colrain

July 7, 1937, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing two steel arch bridges with concrete decks, as follow, and approaches thereto, the surface on the approaches to the Charlemont-Shelburne bridge consisting of broken stone and tar mixed in place, the surface on the westerly approach to the Colrain bridge consisting of bituminous treated gravel and the surface on the easterly approach to the Colrain bridge consisting of bituminous macadam: one bridge known as Four Mile Square Bridge is to be constructed over the North River in Charlemont and Shelburne, and one bridge is to be constructed on Adamsville Road over the North River, in the town of Colrain, the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$99,591.50. Work about one-twelfth completed. Expenditure during 1937, \$8,927.55

Sutton

July 7, 1937, contract made with A. Grande, of Boston, for constructing a steel stringer bridge with concrete deck on Stevens Street over Mumford River, and approaches thereto, the surface on the approaches consisting of broken stone and tar mixed in place, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$25,967.00. Work about two-fifths completed. Expenditure during 1937, \$17,440.68.

Berlin

July 7, 1937, contract made with John Moran, Inc., of Fitchburg, for constructing a steel stringer bridge with concrete deck on Bridge Road over Assabet River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$22,998.50. Work about nine-elevenths completed. Expenditure during 1937, \$18,824.31.

Orange

July 7, 1937, contract made with Louis Balboni, Inc., of Boston, for constructing a steel stringer bridge with concrete deck on Holtshire Street over Millers River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$33,630.50. Work about one-half completed. Expenditure during 1937, \$14,169.50.

Athol-Orange

July 7, 1937, contract made with Louis Balboni, Inc., of Boston, for constructing a steel stringer bridge with concrete deck at Fryeville over Lawrence Brook, and approaches thereto, the surface on the approaches consisting of broken stone and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$17,040.80. - Work about two-thirds completed. Expenditure during 1937, \$11,409.16.

Winchendon

July 7, 1937, contract made with G. Bonazzoli & Sons, of Hudson, for constructing a steel stringer bridge with concrete deck on High Street over Millers River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$24,310.75. Work about five-sixths completed. Expenditure during 1937, \$19,737.85.

Athol

July 7, 1937, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing a steel stringer bridge with concrete deck on Crescent Street over Millers River, and approaches thereto, the surface on the approaches and on the bridge consisting of bituminous concrete. The

proposal amounted to \$33,507.00. Work about one-half completed. Expenditure during 1937, \$16,407.55.

Dudley

July 7, 1937, contract made with A. Grande, of Boston, for constructing a steel stringer bridge with a concrete deck on Brandon Road over French River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$21,020.50. Work about six-sevenths completed. Expenditure during 1937, \$17,530.20.

Pepperell

June 22, 1937, contract made with Coleman Bros. Corporation, of Boston, for constructing a concrete rigid frame bridge on Mill Street over Nissitissett River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$26,147.50. Work about five-sixths completed. Expenditure during 1937, \$22,222.77.

Fitchburg

July 14, 1937, contract made with Wachusett Engineering Co., Inc., of Fitchburg, for constructing a steel stringer bridge with concrete deck on Circle Street over the Nashua River, and approaches thereto, the surface on the easterly approach to the bridge and the surface on the bridge consisting of bituminous concrete, and the surface on the westerly approach to the bridge consisting of granite blocks. The proposal amounted to \$33,654.50. Work about nine-elevenths completed. Expenditure during 1937, \$27,140.53.

Northfield

July 19, 1937, contract made with Warnard Constructors Inc., of Northfield, for constructing a concrete box culvert and steel penstock on Mount Hermon Road at the outlet to Nelson Pond, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place. The proposal amounted to \$10,432.00. Work about seven-tenths completed. Expenditure during 1937, \$7,980.65.

Townsend

Aug. 24, 1937, contract made with Antonio Pandiscio, of Fitchburg, for constructing a steel through plate girder bridge with a concrete deck on South Street over Squannacook River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place. The proposal amounted to \$17,834.10. Work about five-ninths completed. Expenditure during 1937, \$9,813.25.

Pepperell

Aug. 25, 1937, contract made with Romano Cement Construction Company of Fitchburg, for furnishing and placing new supports, removing existing walls and constructing a new wall under the mill office and restaurant building of the Nashua Paper Company located on Main Street, over the Nashua River. The proposal amounted to \$3,810.25. Work completed Nov. 13, 1937. Expenditure during 1937, \$3,215.04.

Orange

Aug. 31, 1937, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing a steel stringer bridge with concrete deck on South Main Street over Millers River, and approaches thereto, the surface on the approaches and on the bridge consisting of bituminous concrete. The proposal amounted to \$71,435.10. Work about one-ninth completed. Expenditure during 1937, \$8,583.30.

Lowell

Nov. 16, 1937, contract made with Frederick W. Byron, of Cambridge, for repairing the Moody Street Bridge over the Merrimack River. The proposal amounted to \$8,602.50. Work not yet started. No expenditure during 1937.

The expenditures during the year under Chapter 429 (Acts of 1936) for the construction of certain bridges in various counties were as follows:

Berkshire	\$ 19,765.15	Hampshire	\$131,505.32
Franklin	221,858.63	Middlesex	135,499.20
Hampden	159,082.61	Worcester	533,449.26

Total			\$1,201,160.17
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Berkshire Co.

<i>Project</i>	<i>Town</i>	<i>Sub-total</i>	<i>Total</i>
WPFR-1	Adams		\$18,899.35
H.B. 5-2	Cheshire		148.23
H.B. 18-1	North Adams		36.40
H.B. 30-2	Sandisfield		578.99
H.B. 39-2	Windsor		102.18

\$19,765.15

Franklin Co.

WPFR-24	Ashfield		17,255.19
H.B. 2-2	Charlemont		630.45
H.B. 2-12	Colrain	\$2,670.34	
H.B. 2-7	Colrain	1,556.30	
WPFR-8	Colrain	32,542.10	
WPFR 5	Colrain	5,509.39	
WPFR 12	Colrain	12,946.24	
WPFR 6	Colrain	11,017.75	
			66,242.12
H.B. 2-8	Conway	143.80	
WPFR 136	Conway	244.98	
			388.78
WPFR 10	Erving		26,764.11
H.B. 2-1	Montague	346.90	
H.B. 2-9	Montague	2,613.21	
WPFR 10	Montague	9,074.28	
			12,034.39
H.B. 2-10	Northfield	2,057.48	
WPFR-17	Northfield	20,896.08	
WPFR 14	Northfield	9,524.69	
			32,478.25
WPFR 22	Orange	22,003.65	
WPFR 18	Orange	10,317.87	
WPFR 21	Orange	16,229.28	
WPFR 19	Orange	6,903.96	
WPFR 20	Orange	10,260.01	
			65,714.77
H.B. 2-4	Warwick		127.93
H.B. 2-3	Wendell		222.64

\$221,858.63

Hampden Co.

WPFR 36	Belchertown-Palmer		36,231.70
H.B. 4-18	Blandford	64.61	
H.B. 4-2	Blandford	174.50	

239.11

P.D. 54					33
H.B. 3-38	Brimfield			245.56	
H.B. 3-39	Brimfield			197.09	
					442.65
H.B. 6-2	Chester				80.90
H.B. 2-5	Easthampton				280.13
WPFR-33	Ludlow				25,468.62
WPFR 34	Palmer			37,855.71	
WPFR 35	Palmer			33,837.06	
					71,692.77
WPFR 33	Wilbraham				24,646.73
					\$159,082.61

Hampshire Co.

<i>Project</i>	<i>Town</i>	<i>Sub-total</i>	<i>Total</i>
WPFR-29	Hadley		\$27,028.65
WPFR 30	Hatfield	34,591.90	
H.B. 2-11	Hatfield	786.80	
H.B. 2-13	Hatfield	25.00	
			35,403.70
H.B. 2-6	Ware	1,834.39	
WPFR 32	Ware	34,570.45	
WPFR 31	Ware	32,668.13	
			69,072.97
			\$131,505.32

Middlesex Co.

H.B. 4-25	Acton		1,879.02
H.B. 4-15	Dracut		337.53
H.B. 4-9	Framingham		3.75
H.B. 4-24	Hudson		78.75
WPFR-39	Lowell	606.24	
H.B. 4-19	Lowell	2,528.53	
H.B. 4-12	Lowell	96.00	
			3,230.77
H.B. 4-23	Maynard		3,715.02
WPFR-42	Pepperell	25,642.66	
WPFR 43 No.1	Pepperell	76,830.27	
WPFR 43 No.2	Pepperell	3,589.97	
H.B. 4-6	Pepperell	1,006.49	
			107,069.39
H.B. 4-4	Shirley	453.67	
H.B. 4-5	Shirley	481.80	
H.B. 4-22	Shirley	2,705.63	
			3,641.10
WPFR-45	Townsend	11,214.38	
H.B. 4-11	Townsend	554.80	
H.B. 4-20	Townsend	3,774.69	
			15,543.87
			\$135,499.20

Worcester Co.

H.B. 3-35	Ashburnham	422.71	
H.B. 3-60	Ashburnham	369.29	
H.B. 3-66	Ashburnham	1,930.55	
H.B. 3-95	Ashburnham	1,069.05	
H.B. 3-67	Ashburnham	50.00	
H.B. 3-86	Ashburnham	403.12	
H.B. 3-78	Ashburnham	923.85	
H.B. 3-36	Ashburnham	160.05	
H.B. 3-80	Ashburnham	2,250.22	
			7,578.84

H.B. 3-15	Athol	260.81	
H.B. 3-97	Athol	1,350.45	
H.B. 3-70	Athol	1,250.58	
H.B. 3-64	Athol	453.81	
WPFR 53	Athol	17,277.11	
WPFR 19	Athol	6,694.55	
WPFR 20	Athol	11,222.43	
			38,509.74
WPFR 58	Barre	18,676.08	
WPFR 59	Barre	25,530.47	
H.B. 3-100	Barre	2,321.13	
			46,527.68
H.B. 3-22	Berlin	268.78	
WPFR 60	Berlin	19,541.94	
			19,810.72
H.B. 3-28	Blackstone		507.57
WPFR-61	Bolton		21,302.28
H.B. 3-58	Charlton	417.22	
H.B. 3-55	Charlton	498.36	
H.B. 3-84	Charlton	923.54	
H.B. 3-17	Charlton	144.25	
			1,983.37
H.B. 3-77	Clinton		2,429.18
H.B. 3-34	Dana	12.60	
H.B. 3-33	Dana	330.97	
			343.57
WPFR 66	Dudley	18,865.39	
H.B. 3-16	Dudley	250.03	
WPFR 67	Dudley	8,772.71	
			27,888.13
H.B. 3-46	E. Brookfield		21.60
H.B. 3-43	Fitchburg	1,951.36	
WPFR 69	Fitchburg	29,399.81	
			31,351.17
WPFR 106	Gardner		4,110.75
H.B. 3-41	Grafton		438.04
H.B. 3-32	Hardwick	33.87	
H.B. 3-37	Hardwick	14.17	
H.B. 3-14	Hardwick	3.20	
			51.24
H.B. 3-94	Holden	2,208.52	
H.B. 3-72	Holden	1,618.57	
WPFR 71	Holden	14,029.54	
			17,856.63
H.B. 3-29	Hubbardston	64.42	
H.B. 3-19	Hubbardston	25.96	
H.B. 3-57	Hubbardston	45.75	
			136.13
WPFR 76	Lancaster		49,620.13
H.B. 3-2	Leicester	187.86	
H.B. {3-3 & 3-12	Leicester	525.31	
H.B. 3-40	Leicester	20.63	
H.B. 3-4	Leicester	20.63	
			754.43
H.B. 3-11	Leominster	118.76	
WPFR 77	Leominster	43,538.36	
			43,657.12

WPFR 78	Lunenburg	10,316.16	
H.B. 3-5	Lunenburg	145.26	
H.B. 3-62	Lunenburg	2,224.13	
			12,685.55
H.B. 3-20	Mendon		276.97
H.B. 3-82	Millbury		1,363.87
H.B. 3-47	Oxford	146.96	
H.B. 3-83	Oxford	618.24	
H.B. 3-7	Oxford	346.19	
WPFR 82	Oxford	784.31	
			1,895.70
H.B. 3-30	Petersham	66.99	
H.B. 3-56	Petersham	701.57	
H.B. 3-81	Petersham	2,509.90	
WPFR 86	Petersham	24,592.64	
			27,871.10
H.B. 3-51	Phillipston		16.07
H.B. 3-96	Princeton	10.00	
H.B. 3-71	Princeton	2,279.05	
H.B. 3-21	Princeton	48.56	
WPFR 87	Princeton	9,185.87	
WPFR 90	Princeton	5,839.08	
			17,362.56
WPFR 91	Royalston	3,662.51	
WPFR 133	Royalston	12,421.65	
H.B. 3-61	Royalston	2,050.22	
H.B. 3-50	Royalston	340.38	
H.B. 3-69	Royalston	1,042.38	
H.B. 3-49	Royalston	359.38	
			19,876.52
H.B. 3-98	Rutland	2,055.63	
H.B. 3-99	Rutland	738.82	
			\$2,794.45
H.B. 3-59	Southbridge		1,197.78
H.B. 3-13	Spencer	345.94	
H.B. 3-91	Spencer	1,277.42	
H.B. 3-89	Spencer	937.35	
H.B. 3-68	Spencer	70.00	
H.B. 3-87	Spencer	50.00	
			2,680.71
WPFR 90	Sterling	5,839.09	
WPFR 104	Sterling	12,130.59	
H.B. 3-25	Sterling	778.67	
H.B. 3-23	Sterling	1,171.07	
H.B. 3-26	Sterling	468.13	
H.B. 3-24	Sterling	712.19	
			21,099.74
WPFR 105	Sutton		19,387.00
WPFR 3-73	Templeton	2,211.03	
WPFR 106	Templeton	3,843.48	
			6,054.51
H.B. 3-74	Upton	1,581.70	
H.B. 3-90	Upton	911.19	
H.B. 3-54	Upton	484.69	
			2,977.58
H.B. 3-63	Uxbridge	993.75	
H.B. 3-9	Uxbridge	463.60	
WPFR 112	Uxbridge	41,764.99	
			43,222.34

			P.D. 54
H.B.	3-79	Warren	1,820.76
WPFR	67	Webster	8,248.45
H.B.	3-27	Westborough	244.29
H.B.	3-1	W. Boylston	707.67
H.B.	3-45	W. Brookfield	17.55
H.B.	3-48	W. Brookfield	17.55
			35.10
H.B.	3-65	Westminster	1,821.81
H.B.	3-75	Winchendon	30.75
H.B.	3-76	Winchendon	1,086.09
H.B.	3-88	Winchendon	100.00
H.B.	3-93	Winchendon	90.00
H.B.	3-92	Winchendon	40.00
H.B.	3-85	Winchendon	544.55
WPFR	122	Winchendon	655.41
WPFR	124	Winchendon	21,257.59
WPFR	126	Winchendon	70.37
			23,874.76
H.B.	3-42	Worcester	1,055.65
			\$533,449.26

RECONSTRUCTION AND REPAIR OF STATE HIGHWAYS DAMAGED BY FLOODS

In accordance with the provisions of Chapter 186 of the Acts of 1936, an Act making an emergency appropriation for the reconstruction and repair of State Highways damaged by floods, the following contracts were entered into:—

Sutton

January 25, 1937, contract made with Leo J. Nawn, Inc., of Boston, for constructing a steel stringer bridge with concrete deck at station 29+24.42 on Manchaug Street over Mumford River, and approaches thereto, the surface on the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$20,482.90. Work completed Oct. 2, 1937. Expenditure during 1937, \$18,997.03.

Fitchburg

March 24, 1937, contract made with David Pellecchia & Co., of Westminster, for constructing a concrete box bridge at station 15+91.5 over Baker Brook, and approaches thereto, the surface on the approaches consisting of bituminous macadam. The proposal amounted to \$13,339.45. Work completed October 30, 1937. Expenditure during 1937, \$12,236.65.

Winchendon

April 20, 1937, contract made with B. A. Gardetto, Inc., of Boston, for constructing a concrete slab bridge of two spans at station 76+36.13 on Maple Street over Millers River, and a steel stringer bridge with concrete deck at station 8+71.95 on Ashburnham Road over Millers River, and approaches thereto, the surface on the approaches consisting of bituminous macadam, and the surface on the bridges consisting of bituminous concrete. The proposal amounted to \$30,129.50. Work completed Oct. 22, 1937. Expenditure during 1937, \$25,040.84.

Sutton

July 19, 1937, contract made with Middlesex Construction Company, of Framingham, for constructing a concrete retaining wall at about station 28+90 connecting with the southeasterly wing wall of the proposed State Highway Bridge over Mumford River, together with a gravel driveway and incidental work. The proposal amounted to \$2,274.50. Work completed Oct. 16, 1937. Expenditure during 1937, \$1,985.48.

BRIDGES OVER CONNECTICUT RIVER AND MERRIMACK RIVER

In accordance with the provisions of Chapter 433 of the Acts of 1936, an Act providing for the construction or reconstruction of three bridges over the Connecticut River and one bridge over the Merrimack River, the following contracts were entered into:—

Lowell

Jan. 26, 1937, contract made with Coleman Bros. Corporation, of Boston, for constructing a temporary foot bridge of the suspension type over the Merrimack River southerly of Central Bridge, together with a lighting system, and approaches thereto. The proposal amounted to \$34,980.00. Work completed June 30, 1937. Expenditure during 1937, \$34,358.08.

Gill-Montague

May 10, 1937, contract made with Daniel O'Connell's Sons, Inc., of Holyoke, for constructing a deck steel bridge of six spans with a concrete deck at Turners Falls, over the Connecticut River, a canal and a spur track of the New York, New Haven and Hartford Railroad Company, and approaches thereto, the surface course on the approaches and ramps consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$860,567.89. Work about one-third completed. Expenditure during 1937, \$328,487.92.

Lowell

May 19, 1937, contract made with Coleman Bros. Corporation of Boston, for constructing a three span steel bridge of the cantilever through truss type, to be known as Central Bridge, on Bridge Street over the Merrimack River, the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$318,909.00. Work about one-fifth completed. Expenditure during 1937, \$64,092.15.

Deerfield-Sunderland

July 7, 1937, contract made with F. & M. Sand & Gravel Corporation of Woburn, for constructing about 1,937 feet of approaches to the Connecticut River Bridge in Deerfield and Sunderland, the surface course consisting of bituminous macadam. The proposal amounted to \$57,161.60. Work about three-fifths completed. Expenditure during 1937, \$34,510.07.

Lowell

Oct. 8, 1937, contract made with Coleman Bros. Corporation of Boston, for constructing a steel stringer bridge with concrete deck on Bridge Street over Eastern Canal, and approaches thereto, the surface on the approaches consisting of bituminous concrete. The proposal amounted to \$22,850.75. Work not yet commenced. No expenditure during 1937.

Hadley-Northampton

Nov. 2, 1937, contract made with T. Stuart & Son Company, of Watertown, for constructing a five span steel deck truss bridge with concrete floor, to be known as the Calvin Coolidge Memorial Bridge, over the Connecticut River between Hadley and Northampton, and approaches and ramps thereto, the surface on the approaches and ramps consisting of standard bituminous macadam, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$1,193,230.95. Work just commenced. Expenditure during 1937, \$1,496.00.

REPAIR OF SLADES FERRY BRIDGE

In accordance with the provisions of Chapter 488 of the Acts of 1935, an Act reallocating the cost of the repair of the Slades Ferry Bridge, so called, over the Taunton River, the following contract was entered into:—

Fall River-Somerset

August 11, 1937, contract made with Coleman Bros. Corporation, of Boston, for reconstructing as a single deck bridge the existing double

deck bridge over the Taunton River known as Slades Ferry Bridge. The proposal amounted to \$224,490.00. Work just commenced. Expenditure during 1937, \$16,188.67.

HUNTINGTON AVENUE OVERPASS

In accordance with the provisions of Chapter 380 of the Acts of 1934, an Act authorizing the construction of an overpass over Huntington Avenue at or near its intersection with Riverway and Jamaica Way in Boston and Brookline, as amended by Chapter 368 of the Acts of 1935, the following contract was entered into:—

Boston

July 14, 1937, contract made with Edward M. Matz, Inc., of Boston, for constructing a steel pile and concrete viaduct on the southerly approach to the bridge over Huntington Avenue at Riverway-Jamaicaway and miscellaneous work, the surface of the viaduct consisting of bituminous concrete. The proposal amounted to \$91,184.60. Work about two-thirds completed. Expenditure during 1937, \$59,188.88.

SIDEWALK, GEORGE WASHINGTON HIGHWAY, HINGHAM

In accordance with the provisions of Chapter 464 of the Acts of 1935, an Act providing a public works program for the purpose of alleviating existing conditions resulting from unemployment, the following contract was entered into:—

Hingham

Aug. 3, 1937, contract made with Edward M. Matz, Inc., of Boston, for constructing a granolithic walk, a gravel shoulder and a loam area in front of the County Court House in Hingham, on the George Washington Highway. The proposal amounted to \$1,529.75. Work completed Sept. 18, 1937. Expenditure during 1937, \$1,405.77.

DRIVEWAY, MONSON STATE HOSPITAL

In accordance with the provisions of Item 498, Chapter 304 of the Acts of 1936, an Act making appropriations for the maintenance of Departments, Boards, Commissions, Institutions, etc., the following contract was entered into by the Department, for the Department of Mental Diseases:—

Monson

April 20, 1937, contract made with S. Rotondi & Sons, of Stoneham, for constructing a driveway at the Monson State Hospital, at about station 0+00 on the southerly side of the Dining Room and Kitchen and extending around the easterly side of the hospital building to about station 3+60 on the Main Drive, the surface consisting of a penolithic type of surfacing. The proposal amounted to \$12,092.30. Work completed Nov. 24, 1937. Expenditure during 1937, \$10,703.20.

ABOLITION OF GRADE CROSSINGS

*(General Laws, Section 70, Chapter 159, as amended by
Section 1, Chapter 357 of the Acts of 1934)*

The following contracts were entered into for the elimination of grade crossings:—

Attleboro-Pawtucket

Feb. 2, 1937, contract made with Arute Bros., Incorporated, of Bridge-water, for constructing a steel stringer bridge of three spans with a concrete deck on Washington Street in Attleboro, at station 268+82.71, over the New York, New Haven and Hartford Railroad, and approach thereto, the surface on the approach consisting of two lanes of cement concrete and three lanes of bituminous macadam, and the surface on the

bridge consisting of bituminous concrete. The proposal amounted to \$80,210.73. Work completed Aug. 24, 1937. Expenditure during 1937, \$66,562.02.

Huntington

May 26, 1937, contract made with Arute Bros., Incorporated, of Bridgewater, for constructing a multiple span bridge at Main Street over Westfield River, over the tracks of the Boston and Albany Railroad and over a proposed roadway, together with a ramp, stairways and other structures, and approaches thereto, the surface on the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$289,824.65. Work about one-half completed. Expenditure during 1937, \$139,077.26.

Milford

June 8, 1937, contract made with M. DeMatteo Co., of Roslindale, for constructing a three span steel stringer bridge with concrete deck at station 10+96.68 on Medway Street, over the Boston and Albany Railroad (Milford Branch), and approaches thereto, the surface course for the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$103,307.65. Work about one-half completed. Expenditure during 1937, \$54,468.48.

Braintree

June 22, 1937, contract made with M. F. Gaddis, Inc., of Boston, for constructing a steel plate girder bridge to carry the tracks of the New York, New Haven and Hartford Railroad over Union Street in Braintree, 0.36 miles north of South Braintree Station, and about 1,600 feet of highway on new location, the surface consisting of bituminous macadam. The proposal amounted to \$155,339.55. Work about one-third completed. Expenditure during 1937, \$57,834.62.

The following contracts were entered into in connection with the elimination of grade crossings:—

Quincy

August 25, 1937, contract made with Chandler Construction Company, Inc., of Boston, for constructing canopies, shelter shed, lighting system and miscellaneous work at the site of the bridge on Water Street over the New York, New Haven and Hartford Railroad. The proposal amounted to \$19,739.00. Work completed November 30, 1937. Expenditure during 1937, \$16,377.38.

Sharon

Nov. 16, 1937, contract made with Walter L. Ritchie, of Somerville, for constructing canopies, shelter shed, lighting system, intertrack fence and miscellaneous work at the site of the bridge on Depot Street over the New York, New Haven and Hartford Railroad. The proposal amounted to \$9,789.00. Work not yet commenced. No expenditure during 1937.

RECONSTRUCTION OR REPAIR OF CITY AND TOWN BRIDGES DAMAGED BY THE 1936 FLOODS

Work done by force account under provisions of Chapter 429, Acts of 1936

The work done under Chapter 429, Acts of 1936, for the reconstruction of city and town bridges was done by force account and as W.P.A. projects. A total of 115 such projects were approved, 55 bridges being rebuilt to replace those that had been destroyed, and repairs were made to 60 bridges damaged by the flood.

55 BRIDGES REPLACED WITH NEW STRUCTURES

Acton—River Street over Fort Pond Brook, new multi-plate arch bridge, stone faced, one 23 foot span, two 9 foot spans.

Ashburnham—Fitchburg Road over an outlet of Billy Ward Pond, new standard 19 x 6 box type bridge, one 19 foot span.

Ashburnham—Lake Road over Watatic Club Brook, new rigid frame box type bridge, one 15 foot span.

Ashburnham—Main Street, Auto route 12, over Phillips Brook, new reinforced concrete slab on gravity abutments with rubble masonry walls, one 15 foot span.

Ashburnham—Sherbert Road (23-A) over Naumkeag Brook, new reinforced concrete deck on steel stringers on gravity abutments, one 20 foot span.

Ashburnham—Sherbert Road (23-B) over Millers River, new reinforced concrete deck on steel stringers on concrete abutments, one 17 foot span.

Ashburnham—Williams Street over Town Farm Brook, new concrete slab on gravity abutments, one 8 foot span.

Athol—New Salem Road, Auto Route 21 over Oliver Brook, new rigid frame box type bridge, one 11 foot span.

Athol—Washington Avenue over Oliver Brook, new concrete slab on steel stringers on gravity abutments, one 26 foot span.

Barre—Mechanic Street over Prince River, new multiple metal arch on concrete abutments with rubble stone masonry wing walls, one 19 foot span.

Blandford—School House Hill over Freeland Brook, new corrugated multi-plate arch bridge, one 15 foot span.

Charlemont—Warner Bridge over Mill Brook, new plank floor on steel I beams on cement rubble masonry abutments with cement rubble masonry wing walls, one 18 foot span.

Charlton—Grover Road over Little River, new wooden superstructure of plank floor on 6" x 14" stringers on cement rubble masonry abutments, one 20 foot span.

Charlton—Oxford Road over Little River, rubble masonry arch bridge removed and rebuilt, new rubble masonry walls, one 19 foot span.

Clinton—Brook Road over Counterpane Brook, new rigid frame box type bridge, one 11 foot span.

Colrain—Adamsville Bridge over Sanders Brook, new reinforced concrete slab bridge with rubble concrete abutments and wing walls, one 17.83 foot span.

Colrain—Starkey Bridge over West Branch River tributary, new reinforced concrete slab bridge with rubble concrete abutments and wing walls, one 20 foot span.

Fitchburg—Townsend Street over Bakers Brook, new reinforced concrete slab deck on steel stringers on stone masonry abutments, one 32 foot span.

Hatfield—Chestnut Street over overflow for Mill River, four 48" corrugated metal pipes protected by rip rap.

Holden—Mill Creet over Quinapoxet River, new reinforced concrete deck on steel stringers over 30 foot center span, reinforced concrete slab over two 10.5 foot end spans, on plain concrete abutments and cement rubble masonry piers.

Holden—Princeton Road over Quinapoxet River, new corrugated metal arch on concrete abutments with rubble masonry wing walls, one 23 foot span.

Leicester—Cross Street over Stream not named, a 20" pipe culvert was replaced by a 48" C.C.M. pipe culvert with rubble stone masonry ends.

Leicester—Mulberry Street over Kettle Brook, new standard 14 foot by 6 foot reinforced concrete box type bridge, one 6 foot span.

Leicester—Pine Street over Twin Meadow Brook, new standard 14 foot by 6 foot box type bridge, one 14 foot span.

Lunenburg—Cross Street over Mulpus Brook, new wooden king post truss with wooden floor beams and plank floor on rubble stone masonry abutments, one 20 foot span.

Lunenburg—Young Road over Baker Brook, new concrete deck on steel stringers on cement rubble masonry abutments, one 26 foot span.

Maynard—Mill Street over Assabet River, new three span multi-plate arch bridge on two piers and two abutments of cement rubble masonry with concrete caps, two 20 foot spans, one 22 foot span.

Mendon—George Street over Muddy Brook, new standard 14 foot by 6 foot box type bridge, one 10 foot span.

Montague—Central Street over Saw Mill River, new reinforced concrete deck on steel I beams on rubble concrete abutments, one 30 foot span.

Northfield—Warwick Road over Mill Brook, new reinforced concrete deck on steel I beams on rubble concrete abutments, one 25 foot span.

Oxford—Texas Road over French River, new 5 foot by 5 foot box culvert added to increase capacity of adjacent bridge, cement rubble masonry abutments and wing walls, one 5 foot span.

Pepperell—Shirley Street over branch of Nashua River, new twin five foot metal culverts encased in concrete with rubble concrete end walls, two five foot spans.

Petersham—Glen Valley Road over East Branch of Swift River, new rigid frame bridge on one new abutment (West) of cement rubble masonry, existing East abutment raised to grade, one 30 foot span.

Phillipston—Royalston Road over Stream not named, new twin 60" C.C.M. pipe culverts with cement rubble masonry end walls.

Princeton—East Princeton Road, auto Route 62 over East Wachusett Brook, new reinforced concrete deck on concrete gravity abutments, one 15 foot span.

Royalston—N. E. Fitzwilliam Road over Lawrence Brook, new concrete slab deck on steel stringers on cement rubble masonry abutments, one 25 foot span.

Royalston—Winchendon Road over Priest Brook, new reinforced concrete deck on steel stringers on cement rubble masonry abutments, one 30 foot span.

Rutland—Intervale Road over Ware River, new three span bridge of reinforced concrete slabs on steel stringers, two concrete piers, two concrete gravity abutments, two 18.7 foot spans, one 27.5 foot span.

Rutland—Lower Intervale Road over Ware River, new concrete abutments and wooden plank floor on steel stringers, one 50 foot span.

Sandisfield—West New Boston Road over Clam River, new 7" reinforced concrete floor over steel I beams on concrete abutments and wing walls, one 50 foot span.

Southbridge—Cisco Street over Cohasse Brook, new reinforced concrete slab on concrete gravity abutments, one 12 foot span.

Spencer—Cooney Road over Seven Mill Brook, new reinforced concrete deck over steel stringers on concrete gravity abutments, one 20 foot span.

Spencer—Dewey Street over Meadow Brook, new standard 6 foot by 6 foot box culvert, one 6 foot span.

Sterling—Greenland Road over Connolly Brook, new standard 10 foot by 6 foot box type bridge, one 10 foot span.

Sterling—Pratt Junction Road over Wekepeke Brook, new reinforced concrete slab on concrete gravity walls, one 10 foot span.

Sterling—Pratt Junction Road over Wekepeke Brook, new reinforced concrete slab on concrete gravity walls, one 10 foot span.

Townsend—Meadow Road over Willard Brook, new cement rubble masonry pier, wooden stringers and wood decks, existing abutments chinked, one 16.5 foot span, one 20 foot span.

Townsend—Turnpike Road over Squannacook River, one abutment replaced with pier, new abutment built, new 21.5 foot span of reinforced concrete slab on steel girders built, existing slab over steel girders on 36 foot span removed and replaced, existing abutment repaired.

Upton—West Street over West River, new reinforced concrete slab over steel stringers on concrete abutments, one 23 foot slab.

Uxbridge—Elm Street over Rivulet Brook, new reinforced concrete rigid frame box type bridge, two 9 foot spans.

Warren—Bliss Road over Tufts Brook, new reinforced concrete deck over steel stringers on concrete gravity abutments, one 18.5 foot span.

West Boylston—Lee Street over Malden Brook, new twin 54" reinforced concrete pipe culverts with rubble masonry head walls.

Westminster—Whitmanville Bridge on North Common Road over Branch of Whitman River, new reinforced concrete slab deck over steel stringers on gravity abutments, one 27 foot span.

Winchendon—Rindge Road, Auto Route 202, over Millers River, reinforced concrete slab on concrete abutments and concrete center pier, two 16.5 foot spans.

Windsor—Main Street over Housatonic River, new 7" reinforced concrete floor over steel I beams on new West abutment of rubble concrete and widened and repaired East abutment, new wing walls for West abutment, wing walls of East abutment repaired and lengthened, one 19.5 foot span.

60 BRIDGES REPAIRED

Ashburnham—Dunn Road over Branch of Miller River, North abutment built of plain cement concrete, South abutment and footing repaired, one 19.5 foot span.

Ashburnham—Whitney Hill Road over Phillips Brook, new stone West abutment, East stone abutment repaired, new wooden superstructure of 6" x 10" stringers and plank floor, one 18 foot span.

Ashby—Valley Road over Willard Brook, stone abutments and copings repaired, one 18 foot span.

Athol—New Sherborn Road over Oliver Brook, concrete arch and wing walls repaired, one 18 foot span.

Athol—White Pond Road over White's Brook, South abutment of plain concrete replaced, stone masonry wing walls pointed, concrete toe placed under North abutment, one 11 foot span.

Berlin—Town Road over North Brook, northwest wing wall and West section of North abutment removed and replaced with plain concrete, one 17 foot span.

Blackstone—Lincoln Street over Fox Brook, cement rubble masonry West abutment and wing wall rebuilt, sections of stone slab replaced, one 9 foot span.

Blandford—Hiram Blair Road over Pond Brook, stone abutments and wing walls repaired and faced, new wooden plank floor placed on existing steel I beams, one 20 foot span.

Brimfield—Holland Road over Mill Brook, footing of plain concrete placed under East abutment which was also built up to level grade, one 20 foot span.

Charlton—Blood Road over Blood Brook, concrete toe placed on abutments, northeast section of cement rubble masonry arch rebuilt, new footing of plain concrete for this same arch, one 16 foot span.

Charlton—Turner Road over Little River, northeast section of cement rubble masonry arch rebuilt, one 17 foot span.

Cheshire—Windsor Road over South Brook, 7" reinforced concrete floor built over existing steel I beams. West abutment removed and rebuilt of concrete with concrete wing walls, one 19.5 foot span.

Chester—Herring Road over East Branch of Westfield River, North abutment removed and replaced with new concrete abutment and wing walls, one 53.3 foot span.

Dana—Dana Center Road over Fever Brook, plain concrete toe placed on existing abutments, channel cleared and riprapped, one 20.5 foot span.

Dana—New Salem Road over East Branch of Swift River, cement rubble masonry abutments repaired, necessary wood plank replaced, one 31 foot span.

Dracut—Navy Yard Bridge, auto route 113, over Beaver Brook,

spandrel walls reset and faced, masonry arches cradled in cement concrete, new B. M. A. surface, one 25 foot span and one 26 foot span.

Dudley—West Dudley Road over Quinapoxet River, existing southeast wing wall of cement rubble masonry repaired with plain concrete, northwest wing repaired and faced with plain concrete, steel stringers painted, East half of wood planking replaced, one 90 foot span.

East Brookfield—Cove Street over Mill Brook, stone abutments repaired and pointed, wooden truss members repaired, wooden floor beams and planking replaced, one 44.5 foot span.

Easthampton—At Southampton line, Glendale Village Bridge over North Branch of Manhan River, existing footings and abutments faced with plain concrete, wing walls faced and extended, one 46 foot span.

Framingham—Framingham Stone Bridge over Sudbury River. Work on this dry stone masonry arch bridge had just started when work was stopped by W.P.A. as not being flood damage, four 10 foot spans.

Grafton—Depot Street over Blackstone Canal, after work was started on this project, it was found that the damage was beyond scope of proposal. Project submitted as a contract project but was rejected, later revised and submitted as a force account project but was rejected, one 18' span.

Hardwick—Hell Huddle Road over Swift River, new cement rubble masonry abutment (South) new wooden king post truss with wooden floor beams and plank from new abutment to center pier only, center pier repaired, no work done to North span, two 28 foot spans.

Hardwick—Southworth Mills Road over East Branch of Swift River, North abutment and pier rebuilt with dry rubble masonry, timber bent built on site of South abutment, new two span wooden king post truss, stringers, and floor plank, one 16 foot span, one 23 foot span, one 25 foot span.

Hardwick—Taylor Hill Road over Moose Brook, stone abutments repaired and pointed, wooden floor replaced with reinforced concrete slab, one 16 foot span.

Hubbardston—Lombard Road over outlet of Ropers Reservoir, North abutment rebuilt of dry rubble masonry, South abutment faced, new superstructure of wooden stringers and plank, one 15 foot span.

Hubbardston—New Road over outlet of Brigham's Pond, existing abutments faced with concrete, new king post truss with wooden floor beams and floor plank, one 20 foot span.

Hubbardston—Ragged Hill Road over Templeton Brook, existing dry rubble masonry abutments and wing walls repaired, one 10 foot span.

Hudson—Washington Street over Assabet River, dry rubble masonry arch repaired, three 20 foot spans.

Leicester—Auburn Street over Kettle Brook, stone masonry arch and wing walls repaired with cement rubble masonry, one 18.2 foot span.

Leominster—Lancaster Street over Fall Brook, stone masonry abutments pointed and repaired with cement rubble masonry, new reinforced concrete slab to replace stone slab, one 10 foot span.

Lowell—East Merrimac Street, Auto route 38 over Concord River, superstructure of existing structure cleaned and painted, two 60 foot spans.

Lowell—Lawrence Street, Auto route 138 over Concord River, existing abutments patched with cement mortar, surface replaced, six 30 foot spans.

Milbury—Cemetery Road over Blackstone River, new concrete pier to replace damaged South abutment, new South abutment of plain concrete, North abutment faced, new South span (22) of reinforced concrete over steel stringers, one 22 foot span, one 46.5 foot span.

Montague—Chestnut Street over Saw Mill Brook, existing N. E. and S. E. wing walls extended with rubble concrete, existing abutments and S. W. and N. W. wing walls of dry rubble masonry faced with reinforced concrete one foot thick, one 27.5 foot span.

North Adams—Brown Street over Hoosac River, steel sheeting driven along the front of existing South abutment, concrete cap placed between abutment and sheeting, two 44 foot spans.

Oxford—Old Webster Road over Little River, washed out portion of North arch replaced with reinforced concrete, parapet walls replaced with cement rubble masonry, two 13 foot spans.

Palmer—At Brimfield line, Palmer-Brimfield Road over Quaboag River, existing stone masonry piers and abutments pointed with cement mortar, rubble masonry toe built on both abutments, weakened wooden truss members replaced, one 25 foot span, one 27 foot span.

Petersham—Quaker Drive over Moccasin Brook, existing stone abutments repaired and pointed new superstructure of wooden stringers and plank floor, one 12 foot span.

Petersham—Quaker Drive over Swift River, west abutment rebuilt with cement rubble masonry, East abutment pointed, one 26 foot span.

Princeton—Hubbardston Road, auto route 62 over Branch of Ware River, replace washed out gravel and riprap, one 32 foot span.

Royalston—North Fitzwilliam Road over Lawrence Brook, existing South abutment repaired with cement rubble masonry, new North abutment built with cement rubble masonry, new wooden superstructure of wooden stringers and plank floor, one 25 foot span.

Royalston—North Fitzwilliam Road over Lawrence Brook, existing dry rubble abutments repaired and raised with cement rubble masonry, new wooden superstructure of wood stringers and plank floor, one 18 foot span.

Shirley—Longley Road over Mulpus Brook, footings replaced with plain concrete, existing abutments repaired, one 16.5 foot span.

Shirley—At Groton line, Lunenburg Road, Auto Route 25, over Squannacook River, existing abutments and wing walls repaired with reinforced concrete, new reinforced concrete abutment and wing walls added to make additional 22.5 foot span, reinforced concrete slab over new span, new B.M.A. surface and approaches to replace washed out roadway, one 25 foot span, one 22.5 foot span.

Shirley—Townsend Road over Mulpus Brook, washed out footings replaced with plain concrete, existing abutments repaired, one 20 foot span.

Spencer—Lower Wire Village over Turkey Hill Brook, existing abutments repaired with cement rubble masonry, new reinforced concrete slab built encasing existing steel I beams, one 20 foot span.

Sterling—Princeton Road, Auto route 62 over Stillwater River, damaged West abutment replaced with plain concrete abutment and wing walls, one 30 foot span.

Templeton—Depot Street over Otter River, North abutment replaced with plain concrete, foundation of South abutment repaired with plain concrete, damaged pipe culvert on side road replaced with 48" pipe with new ends, one 23 foot span.

Townsend—Ashby Road over Willard Brook, existing abutments repaired with cement rubble masonry and pointed with cement mortar, one 34 foot span.

Upton—Pleasant Street over West River, existing wooden superstructure replaced on two new concrete abutments and two rubble stone masonry piers, one 18 foot span, two 12.3 foot spans.

Upton—Williams Street over West River, northwest portion of arch and northwest wing wall of existing structure repaired and rebuilt with cement rubble masonry, one 20 foot span.

Uxbridge—Hartford Avenue over Blackstone River, existing stone arch bridge abutments faced with plain concrete, replaced portion of bridge floor with reinforced concrete, one 38 foot span.

Ware—East Street, Auto Route 9 over Ware River, North spandrel wall of cut stone arch bridge relaid with cement rubble masonry, washed out surface replaced with B.M.A. surfacing, one 60 foot span.

Warwick—Hockinum Road over Wilson Brook, existing dry rubble masonry abutments pointed and repaired, new reinforced concrete slab deck, one 11.5 foot span.

Wendell—Wendell Depot Road over Osgood Brook, new North abutment built of cement rubble masonry, new reinforced concrete slab deck, one 10 foot span.

Westborough—Fisher Street over Assabet River, existing abutments repaired, new reinforced concrete deck, one 14.2 foot span.

West Brookfield—Foster Hill Road over Tannery Brook, existing West abutment repaired, East abutment rebuilt with cement rubble masonry, new wooden superstructure of king post truss, floor beams, and plank floor, one 20 foot span.

West Brookfield—Long Hill Road over Quaboag River, existing North abutment pointed, South abutment rebuilt with cement rubble masonry, lumber planking replaced where necessary over floor of existing two span steel truss highway bridge, two 53 foot spans.

Winchendon—South Royalston Road over Priest Brook, existing abutments faced with plain concrete, new reinforced concrete deck over new steel stringers, one 17 foot span.

Worcester—Park Avenue, Auto Route 12, over outlet of Coes Reservoir, West side of existing arch culvert rebuilt with cement rubble masonry, concrete fence built along West side, concrete toe built along whole length of inside of arch, one 17 foot span.

EXPENDITURES FOR EMERGENCY PUBLIC WORKS CONSTRUCTION

(Chapter 365 Acts of 1933)

(An Act enabling the Commonwealth to secure certain benefits provided by the National Industrial Recovery Act)

<i>Project</i>	<i>City or Town</i>	<i>Amount</i>
R-1	Lynn-Revere	\$50,000.00
R-16	Revere (North Shore Road)	400.00
R-29-2	Concord By-Pass . . . . .	.40
R-33	Fitchburg-Ashby	100.00
R-51	Braintree-Randolph	31,597.22
R-54	Dennis-Yarmouth	2,200.00
Total		\$84,297.62

BOND ISSUE PROJECTS

(Chapter 464 — Acts of 1935)

(An act providing a Public Works program for the purpose of alleviating existing conditions resulting from unemployment.)

Class 1 Projects — None

Class 2 Projects — Construction of Sidewalks

The expenditures during the year in various counties were:—

Barnstable	\$2,693.24	Hampshire	\$40.93
Berkshire	119.64	Middlesex	9,415.12
Bristol	923.31	Norfolk	710.11
Dukes	6.62	Plymouth	1,762.64
Essex	28,582.50	Suffolk	822.04
Hampden	63.58	Worcester	7,437.72
			\$52,577.45
		Engineering	31,011.89
Total			\$83,589.34

Details of the foregoing expenditures follow:—

Barnstable County—Harwich, \$2,693.24.

Berkshire County—Adams, \$22.00; Becket, \$4.34; Dalton, \$36.08; Lee, \$4.20; Pittsfield, \$53.02.

Bristol County—Acushnet, \$657.41; Attleboro, \$18.43; Easton, \$90.97; Mansfield, \$28.69; No. Attleborough, \$11.25; Norton, \$14.56; Raynham, \$16.68; Somerset, \$47.44; Swansea, \$23.60; Taunton, \$14.28.

Dukes County—Oak Bluffs, \$6.62.

Essex County—Gloucester, \$28,582.50.

Hampden County—Agawam, \$3.67; East Longmeadow, \$1.11; Palmer, \$58.80.

Hampshire County—Easthampton, \$1.73; Huntington, \$39.20.

Middlesex County—Acton, \$35.79; Arlington, \$49.72; Bedford, \$82.76; Billerica, \$658.17; Burlington, \$26.48; Chelmsford, \$2,517.69; Concord, \$18.85; Framingham, \$142.68; Holliston, \$7.00; Hudson, \$42.80; Lexington, \$444.35; Littleton, \$49.56; Lowell, \$456.98; Marlborough, \$617.35; Medford, \$29.05; Natick, \$32.92; North Reading, \$71.40; Reading, \$117.20; Somerville, \$32.52; Sudbury, \$740.71; Tewksbury, \$270.65; Townsend, \$82.75; Tyngsborough, \$694.32; Waltham, \$14.40; Wayland, \$1,323.47; Weston, \$67.50; Wilmington, \$289.60; Winchester, \$7.84; Woburn, \$490.61.

Norfolk County—Avon, \$10.04; Bellingham, \$36.85; Braintree, \$84.47; Canton, \$79.55; Dedham, \$77.63; Milton, \$12.53; Needham, \$9.11; Norwood, \$14.63; Quincy, \$17.50; Randolph, \$60.; Stoughton, \$160.26; Weymouth, \$147.54.

Plymouth County—Abington, \$439.74; Brockton, \$22.19; Hingham, \$1,172.07; Norwell, \$25.19; Rockland, \$28.89; Wareham, \$6.72; West Bridgewater, \$67.84.

Suffolk County—Boston, \$822.04.

Worcester County—Athol, \$130.98; Auburn, \$1,474.82; Barre, \$53.03; Blackstone, \$1,121.00; Brookfield, \$660.27; Dudley, \$879.55; East Brookfield, \$132.50; Fitchburg, \$1.90; Gardner, \$182.70; Grafton, \$172.55; Leicester, \$91.81; Milford, \$4.39; Millbury, \$73.75; Northborough, \$2.25; Northbridge, \$518.66; Paxton, \$7.50; Southborough, \$81.99; Southbridge, \$3.75; Sterling, \$76.24; Sturbridge, \$528.95; Templeton, \$4.90; Uxbridge, \$15.27; Webster, \$990.87; West Brookfield, \$215.88; Winchendon, \$4.70; Worcester, \$7.51.

Class 3 Projects — Highway projects under the Hayden-Cartwright Act

The expenditures during the year in various counties were:—

Barnstable	\$46,662.35	Middlesex	\$3,369.13
Berkshire	133,204.28	Norfolk	13,301.15
Essex	1,271,181.45	Plymouth	12,777.70
Hampden	484,783.31	Worcester	418,629.09

Total \$2,383,908.46

Details of the foregoing expenditures follow:—

Barnstable County—Bourne, \$46,662.35.

Berkshire County—Pittsfield, \$133,204.28.

Essex County—Gloucester, \$2,391.68; Lynnfield, \$202,830.00; Saugus, \$1,065,959.77.

Hampden County—Holyoke, \$484,783.31.

Middlesex County—Arlington, \$2,508.99; Belmont, \$556.58; Cambridge, \$303.56.

Norfolk County—Cohasset, \$10,018.28; Foxborough, \$469.12; Norwood, \$702.21; Plainville, \$600.77; Sharon, \$287.57; Walpole, \$528.87; Westwood, \$254.42; Wrentham, \$439.91.

Plymouth County—Hingham, \$9,777.61; Scituate, \$3,000.09.

Worcester County—Millbury, \$259,089.54; Sutton, \$159,539.55.

*Class 4 Projects — Grade crossing eliminations, highway projects,
maintenance of State highways*

The expenditures during the year in the various counties were:—

Barnstable	\$9,039.06	Hampshire	\$170,487.28
Berkshire	45,813.00	Middlesex	132,872.35
Bristol	428,805.68	Norfolk	543,272.38
Essex	1,081,262.08	Plymouth	281,196.72
Franklin	855,685.88	Worcester	749,245.18
Hampden	154,699.08		
Total			\$4,452,378.69
Maintenance			65,866.42
Planning survey			10,297.23
			<hr/>
			\$4,528,542.34

Details of the foregoing expenditures follow:—

Barnstable County—Bourne, \$7,408.77; Falmouth, \$1,630.29;
Berkshire County—Cheshire, \$14,187.23; Lanesborough, \$3,885.68;
Pittsfield, \$531.28; Sheffield, \$27,208.81.
Bristol County—Attleboro, \$97,070.58; Dartmouth, \$127,004.71; Mans-
field, \$76,756.45; North Attleborough, \$119,863.93; Westport, \$8,110.01.
Essex County—Gloucester, \$54.60; Lawrence, \$24,184.95; Lynn, \$12,-
218.61; Lynnfield, \$228,906.62; Methuen, \$19.75; Newbury, \$124,331.24;
Peabody, \$486,774.54; Saugus, \$204,763.79; Swampscott, \$7.98.
Franklin County—Deerfield, \$296,230.52; Gill, \$97,411.93; Greenfield,
\$503.00; Montague, \$248,511.11; Sunderland, \$213,029.32.
Hampden County—Holyoke, \$69,991.92; Monson, \$84,707.16.
Hampshire County—Amherst, \$20,838.60; Huntington, \$149,648.68.
Middlesex County—Ayer, \$35,878.66; Cambridge, \$1,147.69; Hopkin-
ton, \$22,464.83; Lowell, \$18,051.53; Waltham, \$55,329.64.
Norfolk County—Braintree, \$68,737.99; Canton, \$53,977.22; Cohasset,
\$62.30; Foxborough, \$97,839.50; Norwood, \$2,213.38; Plainville, \$70,-
482.33; Quincy, \$113,292.03; Sharon, \$114,353.53; Westwood, \$7,229.94;
Weymouth, \$15,084.16.
Plymouth County—Hingham, \$149.41; Marshfield, \$131,099.88; Mid-
dleborough, \$1,100.03; Pembroke, \$130,733.32; West Bridgewater,
\$18,114.08.
Worcester County—Ashburnham, \$97,419.60; Clinton, \$73,825.78;
Grafton, \$128,395.73; Lunenburg, \$32,634.26; Milford, \$57,236.05; Mill-
bury, \$14,028.25; Shrewsbury, \$1,166.06; Sterling, \$5,382.57; West
Boylston, \$2,061.51; Westborough, \$50,901.71; Worcester, \$286,193.66.

Class 5 Projects — Development of Rivers and Harbors

Expenditures during the year 1937 were as follows:

Boston Harbor:

Commonwealth Pier No. 5	\$271,858.53
Dredging	10,803.89
	<hr/>
	\$282,662.42

Outside Boston Harbor:

Lake Anthony, Oak Bluffs	\$1,844.85
Onset Bay, Wareham	264.56
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	2,109.41

Total	<hr/>	\$284,771.83
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RECONSTRUCTION AND REPAIR OF STATE HIGHWAYS DAMAGED BY FLOODS
(Chapter 186, Acts of 1936)

Uncompleted flood repair and betterment projects which were necessi-
tated by the flood of March 1936 were completed early in the year. Most
of this work was completed during the previous year.

The State expenditures for work on State highways which was authorized by special act of the Legislature under Chapter 186 of the Acts of 1936 amounted to *\$3,245.77 for force account projects and *\$5,009.88 for Works Progress Administration repair and betterment projects. The Works Progress Administration has expended a total amount of about \$470,000.00 for this work since these projects were started, of which amount about \$16,000.00 was expended during the fiscal year 1937.

EXPENDITURES FOR CONSTRUCTION AND REPAIR OF STATE HIGHWAYS

DAMAGED BY FLOODS

(Chapter 186, Acts of 1936)

The expenditures during 1937 in various Counties were:—

Berkshire	\$177.90	Hampshire	\$110.42
Essex	696.88	Middlesex	3,321.09
Franklin	9,340.35	Worcester	71,014.58
Hampden	2,737.85		
Total			\$87,399.07

Details of the foregoing expenditures follow:—

Berkshire County—Adams, \$177.90.

Essex County—Methuen, \$153.92; Middleton, \$271.48; No. Andover, \$271.48.

Franklin County—Buckland, \$181.21; Charlemont, \$181.20; Erving, \$4,488.97; Gill, \$4,488.97.

Hampden County—Chester, \$31.30; Palmer, \$2,706.55.

Hampshire County—Huntington \$110.42.

Middlesex County—Ashland, \$153.91; Dracut, \$1,095.08; Tewksbury, \$380.35; Tyngsborough, \$1,284.82; Wayland, \$406.93.

Worcester County—Athol, \$36.65; Fitchburg, \$14,268.68; Gardner, \$192.89; Holden, \$59.07; Millbury, \$583.24; Princeton, \$59.44; Sutton, \$25,735.22; Upton, \$264.00; Westminster, \$11.27; Winchendon, \$29,-804.12.

MAINTENANCE AND REPAIR OF STATE HIGHWAYS

(Section 13, Chapter 81, General Laws)

The expenditures during the year in various counties were:—

Barnstable	\$94,749.88	Hampshire	\$89,203.99
Berkshire	166,734.75	Middlesex	389,084.08
Bristol	156,207.83	Nantucket	297.64
Dukes	13,389.82	Norfolk	368,506.47
Essex	294,103.79	Plymouth	111,868.57
Franklin	79,372.18	Suffolk	75,255.81
Hampden	73,224.83	Worcester	281,329.35
Total			\$2,193,328.99

Details of the foregoing expenditures follow:—

Barnstable—Barnstable, \$27,018.52; Bourne, \$13,741.46; Brewster, \$1,965.35; Chatham, \$2,726.92; Dennis, \$4,038.55; Eastham, \$1,499.95; Falmouth, \$10,894.80; Harwich, \$3,535.75; Mashpee, \$3,864.01; Orleans, \$3,360.35; Provincetown, \$3,129.44; Sandwich, \$5,554.43; Truro, \$5,-944.40; Wellfleet, \$3,002.23; Yarmouth, \$4,473.72.

Berkshire County—Adams, \$1,490.90; Becket, \$11,031.61; Cheshire, \$4,589.17; Clarksburg, \$6,512.91; Dalton, \$8,471.69; Egremont, \$2,621.47; Florida, \$8,530.71; Gt. Barrington, \$13,449.74; Hancock, \$2,227.87; Hinsdale, \$6,709.33; Lanesborough, \$3,858.50; Lee, \$11,107.47; Lenox, \$4,604.12; New Ashford, \$1,434.68; New Marlborough, \$28.49; No. Adams, \$6,394.95; Otis, \$14,442.32; Pittsfield, \$7,294.31; Richmond,

* NOTE: These amounts are for maintenance projects only and do not include any expenditures for bridges, etc.

\$2,356.18; Sandisfield, \$1,645.79; Savoy, \$6,367.17; Sheffield, \$11,485.35; Stockbridge, \$2,808.16; Washington, \$3,271.56; West Stockbridge, \$418.98; Williamstown, \$20,275.38; Windsor, \$3,305.94.

Bristol County—Acushnet, \$3,267.92; Attleboro, \$3,903.09; Berkley, \$1,015.45; Dartmouth, \$6,231.57; Dighton, \$8,794.62; Easton, \$9,647.38; Fairhaven, \$7,126.21; Fall River, \$7.39; Freetown, \$3,612.43; Mansfield, \$3,833.26; Norton, \$8,367.64; No. Attleborough, \$3,304.78; Raynham, \$11,009.32; Rehoboth, \$4,959.88; Seekonk, \$8,534.57; Somerset, \$34,057.77; Swansea, \$17,599.10; Taunton, \$12,597.19; Westport, \$8,288.26.

Dukes County—Chilmark, \$5,135.66; Edgartown, \$2,397.01; Gay Head, \$1,816.67; Oak Bluffs, \$630.61; Tisbury, \$755.27; West Tisbury, \$2,654.60.

Essex County—Amesbury, \$5,566.29; Andover, \$21,915.90; Beverly, \$12,428.52; Danvers, \$7,975.48; Essex, \$3,075.24; Gloucester, \$29,939.30; Groveland, \$2,811.56; Hamilton, \$6,238.96; Haverhill, \$7,074.53; Ipswich, \$12,623.16; Lawrence, \$2,798.21; Lynn, \$5,860.20; Lynnfield, \$2,860.67; Merrimac, \$2,602.40; Methuen, \$17,072.52; Middleton, \$22,205.06; Newbury, \$11,130.75; Newburyport, \$7,740.64; No. Andover, \$23,310.52; Peabody, \$5,794.47; Rockport, \$1,087.17; Rowley, \$7,847.07; Salem, \$19,130.61; Salisbury, \$13,042.51; Saugus, \$15,897.89; Swampscott, \$10,603.67; Topsfield, \$7,213; Wenham, \$3,239.92; West Newbury, \$5,017.57.

Franklin County—Ashfield, \$3,177.28; Bernardston, \$3,207.80; Buckland, \$1,897.35; Charlemont, \$7,989.95; Colrain, \$1,955.11; Conway, \$1,195.67; Deerfield, \$6,486.05; Erving, \$5,426.80; Gill, \$1,798.84; Greenfield, \$9,238.08; Montague, \$5,062.97; New Salem, \$2,730.76; Northfield, \$8,742.98; Orange, \$3,027.45; Shelburne, \$5,848.20; Shutesbury, \$2,615.32; Sunderland, \$4,773.95; Whately, \$4,377.62.

Hampden County—Agawam, \$9,590.09; Blandford, \$2,762.52; Brimfield, \$6,116.51; Chester, \$8,020.59; Chicopee, \$8,787.42; East Longmeadow, \$1,428.23; Hampden, \$213.49; Holland, \$116.60; Holyoke, \$854.74; Monson, \$2,221.80; Palmer, \$7,373.82; Russell, \$5,324.01; Southwick, \$3,159.77; Tolland, \$157.35; Wales, \$4,998.31; W. Springfield, \$2,871.15; Westfield, \$5,022.14; Wilbraham, \$4,206.30.

Hampshire County—Amherst, \$5,741.31; Belchertown, \$5,969.54; Cummington, \$7,393.03; Easthampton, \$4,645.39; Goshen, \$6,599.84; Granby, \$4,686.05; Hadley, \$4,501.93; Hatfield, \$2,069.28; Huntington, \$9,354.01; Enfield, \$35.88; Northampton, \$7,808.24; Pelham, \$1,678.31; Southampton, \$7,032.18; So. Hadley, \$8,446.55; Ware, \$8,304.67; Williamsburg, \$3,701.33; Worthington, \$1,236.45.

Middlesex County—Acton, \$7,752.69; Arlington, \$16,279.96; Ashby, \$8,794.26; Ashland, \$4,980.17; Ayer, \$2,623.47; Bedford, \$1,408.25; Belmont, \$3,620.90; Billerica, \$10,188.15; Boxborough, \$4,040.68; Burlington, \$3,627.88; Cambridge, \$3,350.07; Carlisle, \$8.79; Chelmsford, \$17,561.69; Concord, \$14,648.63; Dracut, \$5,273.45; Framingham, \$24,198.65; Groton, \$1,981.39; Holliston, \$6,052.84; Hudson, \$6,631.82; Lexington, \$24,233.59; Lincoln, \$11,301.31; Littleton, \$8,636.28; Lowell, \$3,944.68; Malden, \$81.44; Marlborough, \$10,898.63; Medford, \$4,949.47; Melrose, \$907.02; Natick, \$16,219.32; Newton, \$19,191.06; No. Reading, \$6,453.68; Pepperell, \$1,417.83; Reading, \$18,829.41; Shirley, \$3,370.92; Somerville, \$4,430.96; Stoneham, \$3,610.57; Sudbury, \$10,504.71; Tewksbury, \$15,470.54; Townsend, \$7,718.68; Tyngsborough, \$11,764.54; Waltham, \$3,031.62; Watertown, \$1,881.04; Wayland, \$17,320.47; Westford, \$6,119.45; Weston, \$10,669.19; Wilmington, \$6,281.17; Winchester, \$2,520.83; Woburn, \$14,301.93.

Nantucket County—Nantucket, \$297.64.

Norfolk County—Avon, \$3,126.15; Bellingham, \$3,401.83; Braintree, \$28,065.01; Brookline, \$12,292.43; Canton, \$39,691.31; Cohasset, \$2,835.62; Dedham, \$29,693.15; Dover, \$2,902.19; Foxborough, \$8,929.89; Franklin, \$1,584.84; Holbrook, \$5,970.11; Milton, \$30,008.12; Needham, \$13,262.53; Norfolk, \$291.45; Norwood, \$24,228.78; Plainville, \$4,181.96;

Quincy, \$11,340.63; Randolph, \$12,232.99; Sharon, \$4,867.28; Stoughton, \$11,734.88; Walpole, \$18,734.67; Wellesley, \$22,618.89; Westwood, \$21,629.99; Weymouth, \$42,086.87; Wrentham, \$12,794.90.

Plymouth County—Abington \$8,162.84; Bridgewater, \$3,416.31; Brockton, \$6,928.78; Duxbury, \$3,531.78; E. Bridgewater, \$2,826.34; Hanover, \$2,898.69; Hingham, \$8,735.06; Hull, \$543.68; Kingston, \$3,752.11; Lakeville, \$7,895.99; Marion, \$2,599.97; Marshfield, \$5,562.17; Mattapoisett, \$3,812.71; Middleborough, \$10,105.17; Norwell, \$994.42; Pembroke, \$1,763.55; Plymouth, \$13,220.60; Plympton, \$23.21; Rochester, \$1,817.48; Rockland, \$4,439.52; Scituate, \$5,144.11; Wareham, \$8,204.81; W. Bridgewater, \$2,034.99; Whitman, \$3,454.28.

Suffolk County—Boston, \$22,941.65; Chelsea, \$1,775.02; Revere, \$50,539.14.

Worcester County—Ashburnham, \$4,011.51; Athol, \$3,791.26; Auburn, \$10,276.64; Barre, \$6,028.08; Blackstone, \$6,608.44; Boylston, \$75.53; Brookfield, \$2,169.95; Charlton, \$6,070.15; Douglas, \$1,044.86; Dudley, \$4,428.83; E. Brookfield, \$5,570.28; Fitchburg, \$1,343.83; Gardner, \$4,934.43; Grafton, \$8,864.29; Hardwick, \$326.93; Harvard, \$3,301.53; Holden, \$6,514.56; Hopedale, \$1,566.17; Hubbardston, \$14.06; Lancaster, \$3,429.36; Leicester, \$3,070.44; Leominster, \$1,279.17; Lunenburg, \$7,203.47; Mendon, \$1,236.64; Milford, \$4,014.73; Millbury, \$17,795.40; Millville, \$591.83; New Braintree, \$299.75; No. Brookfield, \$3,859.08; Northborough, \$5,447.00; Northbridge, \$4,891.56; Oakham, \$10,502.54; Oxford, \$3,749.70; Paxton, \$2,996.28; Petersham, \$6,768.15; Phillipston, \$1,178.74; Princeton, \$2,411.18; Royalston, \$3.16; Rutland, \$18,748.94; Shrewsbury, \$9,613.10; Southboro, \$6,618.02; Southbridge, \$1,466.95; Spencer, \$4,034.91; Sterling, \$12,185.92; Sturbridge, \$8,566.62; Sutton, \$13,326.26; Templeton, \$5,140.44; Upton, \$2,228.51; Uxbridge, \$2,547.57; Warren, \$5,209.42; Webster, \$3,682.97; West Boylston, \$3,494.43; West Brookfield, \$5,329.07; Westborough, \$8,074.33; Westminster, \$4,953.55; Winchendon, \$3,152.75; Worcester, \$6,296.08.

Miscellaneous expenditures for maintenance of highways are as follows:—

Snow Removal

Equipment and Repairs

Repairs and parts	\$102,826.38
Labor	49,316.26
New equipment	52,478.25

\$204,620.89

Plowing and Sanding

Materials (sand, gas, oil, calcium chloride)	183,324.89
Labor	218,428.02
Truck hire	92,649.12

494,402.03

\$699,022.92

Traffic

Route markers	15,916.84
Direction signs	14,582.63
Warning signs	32,386.00
Regulatory signs	6,947.58
Control signals	45,702.53
Surface markings	26,729.89
Curb markings	190.87
Traffic survey	6,503.66
Salaries	44,031.49
Chap. 357	358.58
Traffic census	5,534.45
Art project	56.73

P.D. 54		51
W. P. A.	17.40	
Tercentenary signs	284.96	
		199,243.61

Bridges

Somerset Bridge	15,550.42	
Newburyport Bridge	7,399.23	
New Bedford-Fairhaven Bridge	20,182.01	
Quincy-Weymouth Bridge	18,291.86	
		61,423.52
Geodetic survey		3,124.45
Detour bulletins		1,827.87
Inspection of bituminous concrete pavement (Technical services)		1,690.38
Tractor repairs		7,891.03

Total miscellaneous expenditures	\$974,223.78
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Summary of Maintenance Expenditures

Maintenance and repair of State Highways	\$2,193,328.99
Miscellaneous expenditures	974,223.78

Total	\$3,167,552.77
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ORDINARY AND SPECIAL MAINTENANCE

The work of repairing road surfaces, maintaining shoulders and slopes, cleaning drainage ditches and conduits, and miscellaneous work on the right-of-way including repairing fences, trimming trees, clearing roadsides and improvement of the appearance of State highways was performed under the ordinary maintenance allotment. Cost of this work compares favorably with that of other years.

Betterment work by maintenance forces was restricted this year on account of limited funds, so that it was possible to do only a few of the more essential projects. The major portion of funds spent for betterments was for widenings on roads too narrow to carry the traffic, and at locations where a serious condition was caused by the washing out of gravel between the edge of the old surface and the recently installed sidewalk curbing. Resurfacing was done where the old surface had become warped and uneven due to settlement in swampy areas. The total length widened was 1.6 miles and the length resurfaced was 0.5 miles.

Modern guard rail was installed on 7.7 miles of State highway, consisting mostly of replacing old wooden guard rail.

Other betterments included 0.3 miles of shoulder hardenings, improvement of drainage by the installation of culverts, ditches, manholes, catch-basins, etc. and miscellaneous projects.

REMOVAL OF SNOW AND ICE FROM STATE HIGHWAYS AND CERTAIN TOWN ROADS

The program of snow and ice removal was continued under authority of Section 19, Chapter 81, General Laws (Ter. Ed.), amended by Chapter 187 of the Acts of 1933, governing the removal of snow and ice on State highways, and under Chapter 84, Section 11 of the General Laws (Ter. Ed.), governing State cooperation on the plowing of town highways.

This program included a total of 1967.21 miles, of which 1763.42 miles were State highways and 203.79 miles were town roads plowed on a cooperative basis.

Much of the equipment used is owned and operated by the Department, supplemented by hired trucks and equipment owned by cities and towns.

The amount of snow during the winter was less than average, which reduced the cost of plowing, but much sanding was required due to ice storms and freezing rain. Sanding was required on 54 days and frequently it was necessary to keep men and equipment working 24 hours.

An amount of \$699,022.92 was expended by the Department during the fiscal year for plowing and sanding, erection of snow fence, cleaning of waterways, maintenance and repair of equipment, and the purchase of materials, such as sand, calcium chloride and sodium chloride.

REPAIRING DEPARTMENT EQUIPMENT

The following contracts were entered into for repairing equipment.

Boston—September 29, 1937, contract made with J. J. Callahan of Boston, for repairing Department snow removal units and machinery. The proposal amounted to \$68,750. Work about one-fifth completed. Expenditure during 1937, \$13,278.04.

Boston—November 30, 1937, contract made with J. E. Black of Dedham, for repairing Department tractors. The proposal amounted to \$8,590. There were no expenditures during 1937.

BRIDGE MAINTENANCE AND OPERATION

Draw Bridge over the Merrimac River Between Newburyport and Salisbury

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending November 30, 1937, was 201. In 1936 the number of such openings was 168; in 1935 the number was 178; in 1934 the number was 110; in 1933 the number was 153; and in 1932 the number was 220.

The total expenditure during the year was \$7,399.23.

The total expenditure from 1912 to November 30, 1937, inclusive, was \$211,621.44.

Draw Bridge over Taunton River Between Fall River and Somerset

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and for operating the draw and maintaining the structure, shall be paid by the Commonwealth.

The number of draw openings during the year ending November 30, 1937, was 1,385. In 1936 the number of such openings was 1,591; in 1935 the number was 1,492; in 1934 the number was 2,118; in 1933 the number was 1,602; and in 1932 the number was 1,662.

The total expenditure during the year was \$15,550.42.

The total expenditure from 1912 to November 30, 1937, inclusive, was \$436,202.49.

Draw Bridge over Acushnet River between City of New Bedford and the Town of Fairhaven

This bridge, which was placed in charge of the Department of Public Works and made a State highway by the provisions of Chapter 406, Acts of 1930, which also provided that the expense of keeping the bridge in good repair for travel, operating the draw and of maintaining the structure, shall be paid by the Commonwealth, was taken over by the Department on June 27, 1930.

The number of draw openings while in charge of the Department beginning June 27, 1930, and ending November 30, 1932, was 1,069. In 1933, the number of such openings was 1,867; in 1934 the number was 1,434; in 1935 the number was 1,318; in 1936 the number was 1,434; in 1935 the number was 1,318; in 1936 the number was 1,381; and in 1937 the number was 1,064.

The total expenditure during the year was \$20,182.01.

The total expenditure while in charge of the Department has been \$159,612.30.

*Draw Bridge over Weymouth Fore River between the City of
Quincy and the Town of Weymouth*

The jurisdiction of the Department of Public Works over this bridge is provided for by Chapter 348, Acts of 1933.

The new drawbridge was put in service May 23, 1936. From May 23, 1936, to November 30, 1936, the number of openings was 479.

The total expenditure during the year was \$18,291.86.

The total expenditure since construction for the maintenance and operation of both the temporary and new bridges was \$31,779.26.

ROADSIDE MAINTENANCE AND DEVELOPMENT

Roadside maintenance has been one of the duties of this Department for many years. However, its scope has broadened so that it now is a part of both construction and maintenance of highways.

During the year supervision and inspection was given to work totaling approximately \$1,800,000 in value in addition to the planting of 803 trees and 2444 shrubs and vines.

As in the past the removal and trimming of trees, shrubs and undesirable growth has been carried on under the supervision of competent experienced employees. Much trimming has been done by public utilities companies for new and old pole lines. Inspectors have been employed to inspect this work, and prevent too extensive cutting of trees.

There were during the year 1937, 150 individual W.P.A. Roadside Beautification projects in operation, mostly in the eastern part of the State. Each was carried on under the direction of a department engineer. Particularly, attention was given to work along the Concord Turnpike, the Providence Turnpike, and the Worcester-Fitchburg road. Under the W.P.A. two projects for prevention of soil erosion were completed. The first project on Route 20 in Palmer was completed in June. This slope had caused considerable trouble when masses of earth and rock slipped down the slope, sometimes covering the road. The condition was corrected at a cost of about \$5,000.

The other slope on Route 1 in Wrentham was completed in September. This slope also caused difficulty each spring, but the trouble was corrected by lowering the ground water level and sodding the slope surface. Work was completed at a cost of \$2,000 to the Department.

By use of Federal money secured through the Hayden-Cartwright Act and WPGH funds, plans and estimates were prepared for nine roadside improvement projects. The following table shows the town, route, and cost of each:

Town	Route	Cost
Middleborough	28	\$ 924.30
Cheshire-Lanesborough	8	19,885.50
Sterling	12	5,668.34
Worcester-West Boylston	12	3,289.91
Foxborough, Norwood, Sharon, Walpole, Wrentham, Plainville, Westwood, Dedham	1	3,688.00
Hingham-Cohasset-Scituate	3-A	17,978.55
Gloucester	121	2,285.01
Arlington-Belmont-Cambridge	2	3,983.68
Hingham	3	6,520.34
Total		<hr/> \$64,223.63

ROADSIDE IMPROVEMENT

The Department entered into the following contracts for roadside improvement:—

Arlington-Belmont-Cambridge

Dec. 23, 1936, contract made with William P. Herlihy, of Cambridge, for furnishing and planting trees, shrubs, vines and plants complete with necessary fertilizer, tree stakes where necessary along Automobile Route 2, beginning in Cambridge at the traffic circle on the Alewife Brook Parkway and continuing through the towns of Arlington and Belmont (including the grade separation at Pleasant Street) to the Lexington town line. The proposal amounted to \$3,983.68. Work completed May 25, 1937. Expenditure during 1937, \$3,369.13.

Gloucester

March 24, 1937, contract made with Louis A. Reardon, of North Abington, for furnishing and planting trees, shrubs, vines and plants, complete with necessary fertilizer and tree stakes where necessary, at designated locations along Automobile Route 121, beginning at the Essex Town Line and extending to about the intersection with Bond Street. The proposal amounted \$2,285.01. Work completed May 15, 1937. Expenditure during 1937, \$2,285.01.

Middleborough

March 24, 1937, contract made with Littlefield Wyman Nurseries, of North Abington, for furnishing and planting trees, shrubs and plants complete with necessary fertilizer and tree stakes where necessary, at designated locations along Automobile Route 28 beginning at the Bridgewater Town Line and continuing along Route 28, including the traffic circle at the intersection with Route 101, to the Rochester Town Line. The proposal amounted to \$924.30. Work completed May 18, 1937. Expenditure during 1937, \$924.30.

Hingham-Cohasset-Scituate

May 10, 1937, contract made with Tree-Land Inc., of Cambridge, for furnishing and planting trees, shrubs and vines, complete with necessary fertilizer and tree stakes where necessary, at designated locations along Automobile Route 3-A, beginning at the traffic circle at the junction of Summer Street and extending thence through Hingham, Cohasset and Scituate for about 8.9 miles to the junction with the old State Highway. The proposal amounted to \$17,978.55. Work about five-sixths completed. Expenditure during 1937, \$14,920.00.

Dedham-Foxborough-Norwood,—etc.

May 19, 1937, contract made with Louis A. Byrne Nurseries, Inc., of Dennisport, for furnishing and planting trees, complete with necessary fertilizer and tree stakes where necessary, at designated locations along Automobile Route 1, beginning at the North Attleborough Town Line and extending thence along Route 1 through the towns of Plainville, Wrentham, Foxborough, Sharon, Walpole, Norwood, Westwood and for about 5,400 feet into Dedham. The proposal amounted to \$3,688.00. Work completed Nov. 10, 1937. Expenditure during 1937, \$3,134.80.

Cheshire-Lanesborough

June 8, 1937, contract made with Louis A. Reardon, of North Abington, for furnishing and planting trees, shrubs and vines, complete with necessary fertilizer and tree stakes where necessary, at designated locations along Automobile Route 8, beginning at the Pittsfield City Line and extending thence along Route 8 through the towns of Lanesborough and Cheshire to the Adams Town Line. The proposal amounted to \$19,885.50. Work about nine-tenths completed. Expenditure during 1937, \$17,044.34.

Hingham

June 30, 1937, contract made with Martin J. Kelly, of Boston, for rough grading, rounding and sodding highway slopes and doing miscellaneous incidental work, at designated locations along Automobile Route 3, beginning at about the Weymouth Town Line and extending thence along Route 3 to about the Norwell Town Line. The proposal amounted to \$6,520.34. Work completed August 21, 1937. Expenditure during 1937, \$7,084.88.

Worcester-W. Boylston

July 21, 1937, contract made with William P. Herlihy, of Cambridge, for rough grading, rounding and sodding highway slopes and doing miscellaneous work, at designated locations along Automobile Route 12, beginning at about the trestle crossing over the Boston & Maine Railroad at Malden Street in Worcester and extending thence along Route 12 in Worcester and in West Boylston to about the intersection of Sterling Road with Lancaster Street. The proposal amounted to \$3,289.91. Work completed September 18, 1937. Expenditure during 1937, \$3,183.95.

Sterling

Aug. 18, 1937, contract made with Martin J. Kelly, of Boston, for rough grading, rounding and sodding highway slopes and doing miscellaneous incidental work, at designated locations along Automobile Route 12, beginning at about the intersection of Route 12 (Main Street) with Princeton Road and extending thence along Automobile Route 12 in Sterling to about at Pratts Junction. The proposal amounted to \$5,668.34. Work completed Oct. 15, 1937. Expenditure during 1937, \$5,075.77.

SIDEWALKS ALONG STATE HIGHWAYS

State Bond Issue and Federal W.P.A. Allotments

Sidewalk construction continued during the fiscal year 1937 with funds from the Bond Issue of 1935, Chapter 464, Section 2, and an allotment from the Works Progress Administration. This work consisted of placing surfacing on graded areas, completing installation of curbing, drainage, and guard rail, and fine grading, loaming and seeding slopes and grass plots.

A total of 207 projects were in operation during the fiscal year and 276 miles of sidewalks were completed. An amount of \$83,589.34 was expended from the Bond Issue and \$1,588,855.54 was expended from Federal funds of the Works Progress Administration, a total of \$1,672,444.88.

The number of pedestrian accidents on state highways where sidewalks have been constructed has been materially reduced. A survey discloses that there was a reduction of 30% in both injuries and fatalities in 1937 as compared to 1934, which marked the beginning of the sidewalk construction program.

FARM TO MARKET PROJECTS

Improvement of "Farm to Market" roads, which was started by the Department of Public Works in the fall of 1935, in co-operation with the cities and towns and the Works Progress Administration, continued during the fiscal year 1937, although there were fewer projects operating under sponsorship of the Department and an increase in responsibility on the cities and towns.

Late in the Spring of 1937, the Works Progress Administration requested larger contributions from local authorities making it necessary to revise and resubmit the projects.

The Department agreed to act as co-sponsor pending approval of these revised projects in order to eliminate the possibility of protracted curtailments. This agreement allowed the projects to continue operation, with expenditures charged to statewide allotments granted for projects sponsored by the Department.

During the past year there were 332 miles of "Farm to Market" roads improved, an expenditure of \$2,000,228.80 divided as follows: Works Progress Administration \$1,563,332.12; Cities and Towns \$420,066.47; State \$16,830.21. The majority of these improvements consisted of correcting alignment, widening and providing better visibility at curves and intersections, installation of drainage, excavation of unsuitable material and replacement with a gravel sub-base and wearing surface.

This work has materially reduced welfare costs in many towns and should be considered of substantial value in addition to improvement of roads. The towns realized this and were therefore willing to make larger contributions for equipment and material when so requested by the Works Progress Administration.

WIDENING AND RESURFACING PROJECTS ON STATE HIGHWAYS

Projects started the past year under the Widening and Resurfacing Program of the Works Progress Administration continued until the projects were completed or to a point where they could be safely suspended. Due to a curtailment of the Works Progress Administration funds these projects were then closed.

In September 1936, Widening and Resurfacing Project Proposals, amounting to \$10,512,870. were submitted to the Works Progress Administration for approval on the basis of 100% Federal contribution, the only state expenditures being for engineering and supervision. Approval was received with the restriction that 50% of the total asked for on each project could be spent. Many of these projects were not permitted to start because of completed labor quotas in districts where they were located.

Projects were started under approved allotments, totalling \$2,883,303, in the fall of 1936 and continued until winter weather. Because of reduced quotas in men and further curtailment of Federal funds, few projects were started again in the spring and these were all closed by June 30, 1937.

Total funds expended by the Works Progress Administration for this work amounted to \$196,650, of which \$161,570 was spent the current year.

Some of the projects started under this program were completed later with Ordinary Maintenance funds and others will be considered for completion at an early date, probably as Reconstruction projects.

Reconstruction of 4.0 miles of road was started and partly completed under this program. Widening projects were completed on 6.7 miles of highways. 1822 cubic yards of rip-rap was placed along the banks of the Merrimack River in Dracut.

MATERIALS TESTING LABORATORY

The Materials Testing Laboratory occupies the east end of the basement in the Public Works Department Building, Boston. Established in 1921, it has grown in personnel and equipment to the present up to date plant for testing all materials proposed for use in construction and maintenance of highways and bridges.

The Laboratory is equipped with standard apparatus for testing structural materials. During the past year, over seven thousand analyses were made of one hundred and twelve different types of highway construction and maintenance materials. Many analyses were made in connection with some fifteen research and special investigation projects conducted by the Laboratory.

Laboratory procedure is supplemented by work of a field organization under direction of the several District Highway Engineers. In each of the seven highway districts, is a Materials Engineer equipped with a portable field laboratory. The Materials Engineer works in cooperation with the Laboratory sampling and testing materials, and in his field laboratory, he tests and keeps a check on sand and stone aggregate used in cement concrete mixes for masonry and road surfaces.

The Laboratory takes part in cooperative research performed by other materials testing laboratories. In this way, results of work of all participating laboratories is available.

TRAFFIC

Traffic Signs, Lights, Markings, Signal Systems and Regulations

Under the provisions of chapters 85 and 89, General Laws, as amended, certain duties are placed upon the Department in order to secure uniformity in highway traffic signs, signals, markings, devices and regulations.

The Department is required to erect on all numbered routes such signs, etc., as it may deem necessary for promoting the public safety and convenience.

Traffic Signs, Signals, etc., Erected by Department

Accordingly, the Department has, during the past year, erected those signs, etc.

	1937
Traffic signals	4
Traffic beacons	14
Traffic signs	9,346
Traffic markings (in miles)	783

The erection or designation of the foregoing was based upon accident analyses, traffic counts and speed checks. It is only through a close study of these that the need for warning or control can be accurately gauged.

Directional Signs and Route Markers Erected by Department

Still other signs have been erected under the provisions of the first-named chapter. These are known as directional signs. Posted at or within intersections, these serve to direct the motorist to adjacent, contiguous and even remote towns.

Travel has been further facilitated by the opening of new routes and the marking of these with button signs which notify the motorist upon which route he is traveling.

The fabricating and painting of these signs are done at the Department's traffic shop.

Traffic Control Signals, Signs and Regulations Approved by Department

The provisions of the several chapters already referred to also make the validity of regulations made, or signs, etc., erected by cities and towns upon ways within their control, dependent upon the written approval of the Department of Public Works.

As a means of aiding the municipalities in this respect, the Department assigns its engineers to make studies, and to give advice to those cities and towns which desire to control vehicular traffic through the medium of regulations and signs.

This resulted during the past year in the Department's approving the following traffic control features:

	1937
Traffic signals	50
Traffic beacons	14
Traffic Sign Permits	50
Traffic Marking Permits	13
Traffic rules and regulations	181
Isolated stop signs	390
Safety zones	11

FEDERAL AID IN CONSTRUCTING HIGHWAYS

Statements as to the Acts of Congress and of the Massachusetts Legislature in respect to cooperation between the United States and the State of Massachusetts in the construction of highways, including the Federal Highway Act, approved Nov. 9, 1921, may be found in the annual reports of the Department of Public Works for the years 1920 to date.

A detailed statement of the Federal Aid Allotments and projects for Massachusetts appears in the Department Report for the fiscal year 1933. Additions and alterations for the fiscal years 1934, 1935, 1936 and 1937 and a summary of the allotments appears as follows:

Regular Federal Aid from June 30, 1916 to June 30, 1933	\$18,523,440
1931 Federal Emergency Advance Funds	1,141,460
Federal Emergency Relief and Construction Act of 1932	1,716,612
1934 National Recovery Funds (Appropriated under the National Industrial Recovery Act, approved June 16, 1933)	6,597,100
1935 National Recovery Funds (Appropriated under the Hayden-Cartwright Act approved June 18, 1934)	3,350,474
1936 Regular Federal Aid Funds (Authorized under the Hayden-Cartwright Act Approved June 18, 1934)	1,741,877
1937 Regular Federal Aid Funds (Authorized under the Hayden-Cartwright Act Approved June 18, 1934)	1,743,487
Works Program Funds—Highways	3,262,885
Works Program Funds—Grade Crossings (Appropriated under the Emergency Relief Appropriation Act of 1935)	4,210,833
WPA Funds Used in Conjunction with Works Program Funds (Appropriated under the Emergency Relief Appropriation Act of 1935—Transferred from WPA to the Bureau of Public Roads for Federal Aid Purposes)	958,133
Funds for Flood Replacement Projects (Authorized under the Emergency Relief Appropriation Act of 1936, ap- proved June 22, 1936)	1,533,850
1938 Regular Federal Aid Funds (Authorized under the Hayden-Cartwright Act approved June 16, 1936)	
Regular Federal Aid	\$1,769,936
Secondary or Feeder Roads	353,987
Grade Crossings	1,047,500
	<hr/>
	3,171,423

Total Federal Funds Authorized to Nov. 30, 1937 . . \$47,951,574

There were 64 projects prepared in addition to those shown on the Annual Report of the Department of Public Works for 1936. The length of Federal Aid highway and bridge projects in this State from the commencement of work of this type to November 30, 1937 inclusive is 1,137,389 miles, an increase of 10.018 miles over 1936.

In addition to these highway and bridge projects there were 21 road-side improvement projects under 8 contracts totaling about 61.846 miles. These were all on old Federal Aid projects.

The total length of Federal Aid projects (1,137.389 miles) divided according to the various counties is as follows:

Barnstable	108.387	Hampshire	56.148
Berkshire	136.036	Middlesex	109.442
Bristol	92.254	Norfolk	92.997
Dukes	3.117	Plymouth	114.464
Essex	97.786	Suffolk	5.839
Franklin	57.596	Worcester	191.355
Hampden	71.968		
Total			<hr/>
			1,137.389
			Miles

STATEMENT OF FEDERAL AID FUNDS

1931 Federal Emergency Advance Funds	\$1,141,460.00
(See Department Report for 1933)	
1932 Federal Emergency Relief Funds	1,716,612.00
(See Department Report for 1935)	
1934 National Recovery Funds	6,597,100.00

Allotted as follows:

Amesbury	NRH 243-A	\$21,836.51
Arlington-Belmont-Cambridge	NRM 242-A	617,355.22
Ashby-Townsend	NRH 188-F	117,531.69
Auburn	NRM 130-B	103,571.29
Boston	NRM 244-A	37,926.57
Brookline-Newton	NRM 235-B	210,478.94
Burlington	NRH 78	22,671.06
Charlton	NRH 184-A	34,775.70
Charlton-Oxford	NRH 184-C	34,347.72
Chester	NRH 138-B	46,792.64
Conway-Deerfield	NRS 246	234,689.75
Easton	NRH 89-A	38,908.87
Easton	NRH 89-C	40,017.36
East Boston-Revere	NRM 241-A	698,939.51
Fairhaven	NRH 143-B	64,430.41
Huntington	NRS 245-A	141,633.69
Lanesborough	NRH 173-C	9,983.98
Mattapoisett	NRH 189-E	80,642.31
Newbury	NRH 199-C	46,975.44
Newburyport	NRM 126-A	547,399.77
North Adams	NRM 248-A	176,360.52
Otis	NRS 247	106,186.86
Pittsfield	NRM 173-D	30,896.49
Quincy-Weymouth	NRM 170-C	1,976,400.49
Revere	NRM 241-B	248,063.57
Scituate-Marshfield	NRH 174-B	146,402.02
Springfield	NRM 131-C	207,487.36
Sterling-West Boylston	NRH 172-B	124,037.32
Stoughton	NRH 56	117,194.77
Templeton	NRH 194-B	41,226.36
Wareham	NRH 189-F	32,224.03
West Boylston	NRH 240-B	7,263.08
Winchester	NRH 57(2)	12,746.42
Winchester	NRH 57(B)	18,170.72
Woburn	NRM 57(1)	14,140.19
Worcester	NRM 249	102,389.39

Total for Roadway and Bridge Projects . . . 6,512,098.02

Landscape Projects Financed from these Funds

(See 1935 Report)

Amount Allotted	\$39,752.76
Amount Reverted	1,073.14

Net Amount . . . 38,679.62

Total Amount Under Agreement . . . \$6,550,777.64

Total Allotment . . . 6,597,100.00

Agreement Pending . . . \$46,322.36

The above projects are all completed and final payment received except Quincy-Weymouth NRM 170-C. There is a balance still due on this project, which will be received when the final voucher is submitted and approved.

The following projects also include traffic signals:

NRM 126-A	Newburyport
NRM 130-B	Auburn
NRH 172-B	Sterling-West Boylston

NRM 241-B Revere

NRM 242-A Arlington-Belmont-Cambridge

1935 National Recovery Funds:

Allotted as follows:

Andover	NRS 255	\$189,449.00
Athol-Orange*	NRS 254	156,859.56
Billerica-Chelmsford	NRS 253	107,146.04
Blandford	NRS 252	53,368.79
Boston-Brookline*	NRM 235-E	492,880.00
Boston-Dedham	NRM 251-B	128,471.56
Bourne	NRH 176-B	77,811.54
Bourne-Wareham*	NRH 125-C	146,040.32
Cheshire	NRH 173-E	149,590.82
Dracut-Methuen*	NRH 250	285,253.51
Dedham-Boston	NRH 251-A	229,244.00
Framingham†	NRH 211-B	1,741.00
Framingham†	NRH 211-F	2,678.64
Haverhill	NRM 69-B	42,203.56
Lenox†	NRH 114	7,056.32
Lenox†	NRH 147-A	673.44
Lowell	NRM 91	59,022.86
Millbury*	NRH 256-A	403,122.92
Montague*	NRS 257	313,699.92
Natick†	NRH 211-C	5,483.00
Northborough†	NRH 211-A	11,317.53
Otis-Blandford	NRS 247-B	67,036.95
Pittsfield*	NRM 21-C	30,035.83
Rutland	NRH 134-E	19,155.95
Sheffield†	NRH 98	330.72
Sheffield†	NRH 137-C	2,110.40
Southwick	NRH 73	133,561.79
Wayland	NRH 124-D	12,400.00
Westfield	NRM 155-C	54,312.55

Total Under Agreement	\$3,182,028.52
Amount Available	3,350,474.00

Agreement Pending	\$168,445.48
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The following projects also include sidewalks:

NRM 91	Lowell
NRH 250	Dracut-Methuen
NRH 251-A	Dedham
NRM 251-B	Boston
NRS 255	Andover

The following projects also include traffic signals:

NRH 256-A	Millbury
NRH 251-A	Dedham
NRM 251-B	Boston

Emergency Relief Appropriation Act of 1935

Works Program—Highways

Allotted as follows:

Attleboro-North Attle-		
borough-Plainville	WPSO 290	\$252,640.00
Cheshire* †	WPH 173-A	7,300.00
Cheshire*	WPH 173-E	9,780.00

* Balance due on these projects, to be received when final voucher is approved. All others are finished and final payment has been received.

† Landscape Projects.

Clinton	WPSO 291	86,170.00
Dartmouth-Westport	WPH 152-D	130,110.00
Deerfield-Sunderland†	WPH R 308-A	**389,770.00
Deerfield-Sunderland†	WPH R 308-B	**47,070.00
Gill-Montague	WPSO R 307	**521,293.00
Grafton-Shrewsbury	WPSO 288-A	8,670.00
Greenfield	WPH 222-B	67,272.64
Holyoke	WPMH 284-A	163,530.00
Lanesboro* †	WPH 173-B	3,870.00
Lanesboro* †	WPH 173-C	920.00
Lynn	WPMS 267	63,650.00
Lynnfield	WPH 272-A	271,940.00
Mansfield	WPSO 285-B	3,710.00
Mansfield	WPSO 278-A	4,710.00
Marshfield-Pembroke	WPSO 292	312,580.00
Middleboro*	WPH 149-A	720.00
Middleboro*	WPH 207-A	288.00
Peabody	WPMH 272-B	717,080.00
Sterling*	WPH 172-C	6,230.00
West Boylston*	WPH 240-A	910.00
West Boylston*	WPH 240-B	700.00
West Boylston*	WPH 240-C	460.00
West Bridgewater	WPSO 304	85,860.00
Worcester	WPMH 293-A	27,520.00
Worcester*	WPMH 240-A	639.00
Worcester*	WPMH 240-D	900.00

Total under Agreement	\$3,186,292.64
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Amount Available	3,262,885.00
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Agreement Pending	\$76,592.36
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There are balances due on all of the above projects. These are payable when the final vouchers are submitted and approved.

* Landscape Projects.

** 50% of Cost. See page ? for Remainder.

† These projects still under construction. All others completed.

Emergency Relief Appropriation Act of 1935

Works Program—Grade Crossings

Allotted as follows:

Amherst	WPGM 280-A	\$ 73,600.00
Ashburnham	WPGH 164-C	116,380.00
Attleboro	WPGM 274-A	92,560.00
Ayer	WPGS 263	117,333.04
Braintree	WPGS 287	9,541.00
Braintree*	WPGS 265	197,690.00
Canton-Norwood-		
Westwood	WPGS 269	106,800.00
Foxborough*	WPGS 270	131,510.00
Foxborough-Mansfield	WPGS 271	22,791.76
Grafton-Shrewsbury	WPGS 288-B	120,440.00
Hopkinton-Westborough	WPGS 289	91,990.00
Huntington*	WPGS 283	323,690.00
Lawrence	WPGM 275	82,660.00
Lunenburg	WPGS 276	78,851.19
Mansfield	WPGS 278-B	91,930.00
Mansfield	WPGS 285-A	90,050.00
Milford*	WPGS 305	117,850.00
Monson	WPGS 279	119,230.00
Newbury	WPGH 75-A	14,814.69
Newbury-Newburyport	WPGH 75-B	297,156.46

		P.D. 54
Quincy	WPGM 260	383,727.00
Sharon*	WPGS 262	151,133.23
Sharon	WPGS 277	65,060.00
Sheffield	WPGH 137-D	111,494.62
Sheffield-(Canaan)*	WPGH 310	7,250.00
Waltham	WPGM 208-C	207,519.98
Weymouth	WPGH 121-C	107,379.69
Worcester	WPGM 293-B	348,260.00
Total		\$3,678,692.66
Planning Survey		63,160.00
Total Under Agreement		\$3,741,852.66
Amount Available		4,210,833.00
Agreement Pending		\$468,980.34

* These projects still under construction. All others completed.

Balances are due on all of the above projects. These will be payable when the final vouchers are submitted and approved.

WPA Funds Used For Federal Aid Purposes

The following amount, \$958,133 was appropriated under the Emergency Relief Appropriation Act of 1935 and was transferred from the WPA to the Bureau of Public Roads.

This amount was apportioned to the following projects, each amount representing 50% of the estimated cost of the work. The remaining 50% was financed by regular Works Program Highway Funds.

Deerfield-Sunderland	WPH R 308-A	\$389,770.00
Deerfield-Sunderland	WPH R 308-B	47,070.00
Gill-Montague	WPSO R 307	521,293.00
Total		\$958,133.00

1936 Regular Federal Aid Funds (Hayden-Cartwright)

Apportioned as follows:

Arlington-Belmont- Cambridge*	242-A	1,180.00
Arlington-Belmont*	242-B	1,010.00
Bourne	258	166,967.55
Cohasset-Hingham* †	170-A	3,235.00
Cohasset-Scituate* †	170-B	6,649.00
Dedham-Norwood- Westwood*	231-B	325.00
Foxborough-Plainville- Wrentham*	220	665.00
Foxborough-Sharon- Walpole*	227	499.00
Gloucester*	99	600.00
Gloucester*	119-B	653.00
Hingham*	15	3,585.00
Holyoke	127-A	269,500.00
Lynnfield**	17	146,720.00
Millbury-Sutton	256-B	268,900.00
Norwood-Sharon- Walpole*	231-A	533.00
Pittsfield**	259-A	136,485.00
Saugus**	3	128,375.45
Saugus**	9	579,675.00

Total		\$1,715,557.00
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Planning Survey	26,125.00
Total Under Agreement	\$1,741,682.00
Amount Available	1,741,877.00
Agreement Pending	\$195.00

* Landscape Projects.

† Under construction. All others completed.

There are balances due on all of the above projects.

** Additional funds for these projects to come from 1937 Hayden-Cartwright Funds.

All of the above amounts representing 50% of the cost of the projects. The remaining 50% will be paid for by the State.

1937 Regular Federal Aid Funds (Hayden-Cartwright)

Apportioned as follows:

Bourne	106-A	\$48,475.00
Eastham-(Orleans)	36-A	103,155.00
Fitchburg-Leominster†	273-A	194,283.00
Lynnfield	17 (1936)	*5,285.00
Malden-Revere-Saugus	261	457,420.00
Orleans-(Eastham)	175-B	25,895.00
Pittsfield	259-A (1936)	*2,825.00
Saugus	3 (1936)	*7,434.55
Saugus	9 (1936)	8,500.00
Total		\$853,272.55
Planning Survey		26,150.00
Total Under Agreement		\$879,422.55
Amount Available		1,743,487.00
Agreement Pending		\$864,064.45

* Balance.

† Under Construction. All others completed.

Balance Due on All of these Projects.

The above amounts represent 50% of the cost of the projects. The remaining 50% will be paid for by the State.

BRIDGES

During the year the Department has built or contracted for 77 new bridges and structures, of which 54 were structures to replace those destroyed by the flood in 1936; has built or contracted for alterations, repairs or widening for 6 bridges, of which one was damaged by the flood; has examined and reported on 12 bridges at the request of the local public authorities; has examined and reported on 8 bridges at the request of Department authorities; has examined plans for 7 bridges under the provisions of Section 35, Chapter 85, General Laws (Tercentenary Edition); and has made preliminary studies, estimates or plans for 88 structures contemplated in the near future.

The various cities and towns, the localities therein, and the character of the work is given in detail as follows:

Bridges Built or Contracted for, to Replace Bridges Destroyed by Flood

Adams—Lime Street over Hoosic River, steel stringer bridge, one 47-foot span and one 49-foot span.

Ashfield—Spruce Corner over Swit River, steel stringer bridge, one 40-foot span.

Athol—Crescent Street over Millers River, steel stringer bridge, one 75-foot span.

Athol—At Orange line, Pinedale Road over Lawrence Brook, steel stringer bridge, one 52-foot span.

Athol—At Orange line, Fryeville Bridge over Tully River, steel stringer bridge, one 47-foot span.

Barre—South Barre Road over Ware River, steel truss bridge, one 85-foot span.

Barre—Powder Mill Bridge over Ware River, steel stringer bridge, two 36-foot spans and one 60-foot span.

Belchertown—At Palmer line, Depot Street over Swift River, steel stringer bridge, three 34-foot spans.

Berlin—Marlborough Road over Assabet River, steel stringer bridge, one 63-foot span.

Bolton—Seven Bridge Road over Still River, steel stringer bridge, two 30-foot spans and one 40-foot span.

Charlemont—At Shelburne line, Four Mile Square Road over Still River, steel arch bridge, one 122-foot span.

Colrain—Adamsville Road over North River, steel arch bridge, one 122-foot span.

Colrain—Frank Herzig Bridge over West Branch of North River, concrete rigid frame bridge, one 82-foot span.

Colrain—Robert Hillman Bridge over West Branch of North River, concrete rigid frame bridge, one 70-foot span.

Colrain—Overflow at Frank Herzig Bridge over West Branch of North River, concrete beam and slab bridge, one 20-foot span.

Dudley—At Webster line, Perryville Road over French River, Steel stringer bridge, one 52-foot span.

Dudley—Brandon Road over French River, steel stringer bridge, one 52-foot span.

Erving—At Montague line, Paper Mill Bridge over Millers River, steel through truss bridge, one 154-foot span.

Fitchburg—Circle Street over Nashua River, steel stringer bridge, one 75-foot span.

Fitchburg—Lunenburg Street over Baker Brook Overflow, concrete slab bridge, one 13-foot span.

Gardner—At Templeton line, Shoddy Mill Road over Otter River, steel stringer bridge, one 28-foot span.

Hadley—Scott's Bridge over Mill River, concrete rigid frame bridge, one 32-foot span.

Hatfield—Bridge Street over Mill River, steel stringer bridge, three 36-foot spans.

Holden—River Street over Quinapoxet River, concrete beam and slab bridge, two 23-foot spans and one 52-foot span.

Lancaster—Center Bridge Road over Nashua River, steel stringer bridge, two 80-foot spans.

Leominster—Mechanic Street over Nashua River, steel stringer bridge, two 40-foot spans and one 76-foot span.

Ludlow—At Wilbraham line, Red Bridge over Chicopee River, steel stringer bridge, two 83-foot spans.

Lunenburg—Townsend Harbor Road over Mulpus Brook, steel stringer bridge, one 23-foot span.

Northfield—Mt. Hermon Road over Nelson Pond, 8-foot by 8-foot concrete box culvert and extension to existing penstock.

Northfield—Burnham Road over Mill Brook, steel stringer bridge, one 63-foot span.

Orange—South Main Street over Millers River, steel stringer bridge, two 66-foot spans.

Orange—Holtshire Street over Millers River, steel stringer bridge, three 61-foot spans.

Orange—Warwick Road over Orcutt Brook, steel stringer bridge and concrete dam, one 30-foot span for bridge.

Palmer—Main Street over Ware River, concrete beam and slab bridge, two 29-foot spans and one 38-foot span.

Palmer—Church Street over Ware River, concrete beam and slab bridge, one 31-foot span, one 30-foot span, and one 48-foot span.

Pepperell—Main Street over Nashua River, steel stringer bridge, four 66-foot spans; and new supports for building at bridge site.

Pepperell—Mill Street over Nissitisset River, concrete rigid frame bridge, one 62-foot span.

Petersham—Choate's Pond Bridge over Swift River, steel stringer bridge, one 43-foot span.

Princeton—At Sterling line, Pottery Mill Bridge over Keyes Brook, concrete slab bridge, one 20-foot span.

Princeton—Ropers Mill Bridge over Ware River, steel stringer bridge, one 33-foot span.

Royalston—King Street over Millers River, steel pony truss bridge, one 85-foot span.

Royalston—South Royalston Road over Millers River, steel pony truss bridge, one 90-foot span.

Sterling—Bridge Road over East Wachusett Brook, concrete slab bridge, one 20-foot span.

Sutton—Stevens Road over Mumford River, steel stringer bridge, one 43-foot span.

Sutton—State highway over Mumford River, one 45-foot span steel stringer bridge and concrete retaining wall.

Townsend—Warren Road over Squannacook River, through plate girder bridge, one 86-foot span.

Uxbridge—Mendon Street over Blackstone River, steel stringer bridge, one 77-foot span.

Ware—Church Street over Ware River, steel stringer bridge, two 33-foot spans and one 84-foot span.

Ware—Gibbs Crossing over Ware River, steel stringer bridge, two 33-foot spans and one 84-foot span.

Winchendon—State highway route 202 over Millers River, concrete slab bridge, two 21-foot spans.

Winchendon—High Street over Millers River, steel stringer bridge, two 33-foot spans and one 60-foot span.

Winchendon—State highway route 12 over Millers River, steel stringer bridge, one 33-foot span.

Other Bridges Built or Contracted for

Adams—Center Street over Hoosic River, steel stringer bridge one 53-foot span.

Alford—West Street over Seekonk Brook, steel stringer bridge one 35-foot span.

Attleboro—Washington Street over N. Y., N. H., & H. R. R., steel stringer bridge, two 25-foot spans and one 40-foot span

Barre—School Street over Prince River, concrete slab bridge, one 21-foot span.

Blandford—Russell Road over Freeland Brook, concrete slab bridge, one 15-foot span.

Boston—Jamaicaway over Huntington Avenue, relieving platform at approach to bridge.

Braintree—Union Street under N. Y., N. H. & H. R. R., steel girder bridge, one 50-foot span.

Easthampton—Glendale Street over Manhan River, steel stringer bridge, two 24-foot spans and one 62-foot span.

Fitchburg—Concord to Westminster cut-off over Monoosnock Brook, one 35-foot concrete beam and slab and one 25-foot concrete arch.

Gill—At Montague line over Connecticut River, Canal and New York, New Haven & Hartford Railroad at Turners Falls; one 48-foot steel stringer span over railroad; one 211-foot steel deck truss span over canal; one 150-foot span, two 400-foot spans and one 450-foot span steel

deck trusses over river; total length about 2100 feet, including the wing walls.

Hadley—At Northampton line, Calvin Coolidge Memorial Bridge over Connecticut River, steel deck trusses, two 203-foot spans, two 260-foot spans, and one 296-foot span; total length 1441 feet, including wing walls.

Holden—River Street over Wachusett Brook, steel stringer bridge, one 52-foot span.

Huntington—Cut-off over Westfield River and Boston and Albany Railroad with ramp from bridge to railroad station; one 36-foot span steel stringer; one 83-foot span steel rigid frame over railroad; two 40-foot spans and two 44-foot spans steel stringers and one 185-foot span steel arch over river; and four 42-foot spans steel stringers for the ramp; total length of bridge 615 feet.

Lee—Columbia Street over Coddings Brook, 12-foot by 8-foot concrete box culvert.

Lowell—Central Bridge over Merrimack River: One 473-foot span suspension bridge for temporary foot travel; through steel truss bridge, two 138-foot spans and one 198-foot span.

Lowell—Canal at approaches to Central Bridge, steel stringer bridge, one 49-foot span.

Milford—Medway Street over Boston & Albany Railroad, steel stringer bridge, two 49-foot spans and one 64-foot span.

Pittsfield—South Street over Housatonic River, steel stringer bridge, one 61-foot span.

Quincy—At Water Street; canopies, shelters and platform lighting built in connection with bridge construction.

Sharon—At Sharon Station; canopies, shelter shed and lights.

Southbridge—North Woodstock Road over New York, New Haven & Hartford Railroad, steel stringer bridge, one 49-foot span.

Swampscott—Paradise Road under Boston & Maine Railroad, steel girder bridge with timber floor, one 81-foot span.

Alterations, Repairs or Widening Made or Contracted for

Berkley—At Dighton line, Bridge Street over Taunton River, repairs made to floor and draw operating parts.

Fall River—At Somerset line, Slades Ferry Bridge over Taunton River, existing bridge altered by building new draw span, new floor and making general repairs.

Hamilton—At Ipswich line, Highland Street over Ipswich River, existing bridge widened.

Hanson—Main Street over Poor Meadow Brook, existing concrete arch widened.

Lee—Columbia Street over Washington Mountain Brook, existing bridge widened.

Lowell—Moody Street over Merrimack River, existing deck truss bridge repaired after damage by flood.

*Examinations, Reports, Estimates, etc., at Request of
Local Authorities*

Adams—Pleasant Street over Hoosic River, report made on improvement of waterway.

Bridgewater—At Halifax line, Cherry Street over Taunton River, examination and report on existing bridge.

Essex—Pond Street over Essex River, examination and report on existing bridge.

Falmouth—Nashawena Street over Nashawena Creek, examination and report on existing bridge.

Framingham—Central Street at Saxonville Village, examination and report on condition of retaining wall.

Greenfield—Shelburne Street over Green River, examination and report on existing bridge.

Monroe—At Rowe line over Deerfield River, examination and report on existing bridge.

Newbury—White's Bridge on Newman Road over Little River, examination and report on existing bridge.

Newbury—Plum Island Turnpike over Plum Island Creek, examination and report on existing bridge.

Oxford—Rochdale Street over French River, examination and report on existing bridge.

Palmer—Dutton's Bridge over Ware River, examination and report on existing bridge and proposed bridge.

Saugus—Ballard Street over Tidal Creek, examination and report on existing bridge.

*Examinations, Reports, Estimates, etc., at Request of
Department Authorities*

Agawam—At Springfield line, South End Bridge over Connecticut River, estimate for new bridge.

Arlington—River Street over Mystic River, review of prices paid for stone work on bridge.

Greenfield—At Montague line, Montague City Bridge over Connecticut River, examination and report on existing bridge.

Norfolk—At Walpole line, Winter Street over Stop River, examination and report on existing bridge.

Northampton—South Street over Mill River and New York, New Haven & Hartford Railroad and South Street over Clark Street, estimate for reconstruction of the bridges.

Oxford—At Degnam Bridge, report on responsibility for damage due to flood of 1936.

Townsend—Muddy Road Bridge, examination and report on existing bridge.

*Plans Examined Under the Provisions of Section 35,
Chapter 85, General Laws (Ter. Ed.)*

Brockton—East Ashland Street over Trout Brook.

New Braintree—Hardwick Road over Winnamisset Brook.

Saugus—Elm Street over a culvert.

Springfield—State Street Bridge over Roosevelt Avenue, and Water Shop Bridge.

Westminster—Whitmanville Bridge over Whitman River.

Worcester—Grove Street Bridge over Mill Brook.

*Contemplated Structures for which Preliminary Studies,
Estimates, or Plans Have Been Made*

Ashland—Main and Cheery Streets over Boston & Albany Railroad.

Ashland—Pedestrian underpass on Main Street under Boston & Albany Railroad.

Athol—Main Street over Boston & Maine Railroad.

Belchertown—Granby Road over Boston & Maine Railroad.

Bellingham—Mendon Street over New York, New Haven, & Hartford Railroad.

Bernardston—Hale's Crossing over Boston & Maine Railroad.

Beverly—Paradise Crossing over Boston & Maine Railroad.

Boston—At Cambridge line, traffic circle at end of Prison Point Bridge.

Boston—At Milton line, over Neponset River on a proposed new route.

Boston—At Milton line, near Paul's Bridge over Neponset River.

Boston—Porter Street over Boston & Albany Railroad; Prescott Street over Tunnel Road; Bennington and Neptune Streets over Tunnel Road; and Saratoga Street over Tunnel Road.

Boston—East Milton Street over Mattapan connecting highway.

Brimfield—Sturbridge Road over Mill Brook.

Brookline—At Brookline Village and at Cypress Street at junction with Worcester Turnpike.

- Cambridge*—Alterations at approach to Cottage Farm Bridge.
Charlemont—Depot Street over Deerfield River.
Cheshire—Auto route 8 over Boston & Albany Railroad.
Chesterfield—First Bridge and Second Bridge over Stevens Brook.
Chicopee—Elimination of grade crossing, Plainfield Street at Boston & Maine Railroad.
Danvers—Salem Turnpike under Boston and Maine Railroad.
Danvers—Andover Street over Newburyport Turnpike.
Falmouth—Silver Beach Road over Herring River and over New York, New Haven & Hartford Railroad.
Fitchburg—Concord to Westminster cut-off over Woodbury Mill Pond.
Florida—At Savoy line, Mohawk Trail over Cold River.
Gardner—Mechanic Street highway bridge and pedestrian overpass over Boston & Maine Railroad.
Gloucester—Essex Avenue under Boston & Maine Railroad.
Grafton—Depot Street over Blackstone Canal.
Hatfield—West Street over Mill River, widening of bridge.
Haverhill—River Street over Bradley Brook, widening of bridge.
Haverhill—At Methuen line, Bradley Avenue over Hawkes Brook, widening of bridge.
Holliston—Washington Street over Boston & Albany R. R.
Ipswich—Separation of grades at Newburyport Turnpike and Linebrook Road.
Lawrence—Winthrop Avenue over Shawsheen River, Widening of bridge.
Lee—Auto route 20 over Housatonic River.
Leominster—Concord to Westminster cut-off under New York, New Haven & Hartford Railroad, and under North Main Street.
Lincoln—South Great Road over Boston & Maine Railroad.
Manchester—Proposed road over Manchester Harbor.
Mansfield—Pedestrian underpass at Elm Street under New York, New Haven & Hartford Railroad.
Marblehead—Village Street over Boston & Maine Railroad.
Medfield—At Millis line, Dwight Street over Charles River.
Milton—Proposed road over New York, New Haven, and Hartford Railroad.
Monroe—Valley Road over Dunbar Brook, widening existing bridge.
Montague—Main Street over Central Vermont Railway.
Newburyport—High Street over Boston & Maine Railroad.
Newton—At Weston line, Northern Circumferential Highway over Charles River.
North Adams—Williamstown Road over a brook, widening existing bridge.
North Andover—Boxford Road over Mosquito Brook.
Northbridge—Mendon Road over West River.
Palmer—Dutton's Bridge over Ware River.
Peabody—Lowell Street over Newburyport Turnpike.
Peabody—Andover Street over Circumferential Highway.
Pittsfield—South Street over New York, New Haven & Hartford Railroad.
Randolph—North Street over New York, New Haven & Hartford Railroad.
Rowley—Haverhill Street over Newburyport Turnpike.
Salisbury—Elm Street over Boston & Maine Railroad.
Sharon—Garden Street over New York, New Haven & Hartford Railroad, pedestrian overpass.
Shrewsbury—Southwest Connection over Flint Pond, over Lake Quinsigamond and over Grafton Street.
Southwick—College Highway over Uncle Oliver's Brook.
Southwick—State Highway over Webb Brook.
Sudbury—Boston Post Road over Parmenters Mill Pond.

Sudbury—Worcester Road over New York, New Haven & Hartford Railroad.

Sutton—Worcester Road over Wilkinsonville Road.

Sutton—Worcester to Providence Road over Central Turnpike.

Tewksbury—Wamesit Crossing over Boston & Maine Railroad.

Topsfield—Ipswich Road over Newburyport Turnpike.

West Bridgewater—West Centre Street over Hockamuck River.

West Springfield—Dike wall on Riverdale Road at North End Bridge.

Weston—Circumferential Highway over South Avenue and over Weston Aqueduct.

Williamstown—North Adams Road over Green River.

Winchendon—New Boston Road over Boston & Maine Railroad.

Winchendon—Pequoig Crossing, Ashburnham Road over Boston & Maine Railroad.

Winchester—Main Street over outlet of Wedge Pond.

Windsor—Worthington Road over two brooks.

Windsor—Savoy Road over Westfield River.

CONSTRUCTION OF TOWN AND COUNTY WAYS

(Section 34, Chapter 90, General Laws, Ter. Ed.)

During the year the Department has contracted for work to be done in the towns and cities named in the following table, which also shows the type of road or nature of work, the length contracted for, and the allotments or contributions by the State, towns, cities, and counties:

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
<i>Barnstable County</i>					
Barnstable . . .	\$3,500.00	\$2,500.00	\$2,500.00	Gravel and tar mixed in place	6,362
Barnstable . . .	1,049.69	750.15	750.15		
Barnstable . . .	185.31	132.35	132.35	Repairs	515
Barnstable . . .	300.00	150.00	150.00	Riprap	—
Barnstable . . .	9,265.00	6,717.50	6,717.50	Bituminous concrete	2,931
Bourne	15,200.00	7,600.00	7,600.00	Bituminous concrete	3,390
Brewster	3,500.00	—	3,500.00	Bituminous concrete	1,850
Falmouth	7,000.00	3,500.00	3,500.00	Bituminous concrete	2,990
Harwich	7,000.00	3,500.00	3,500.00	Bituminous concrete	6,700
Orleans	7,700.00	5,500.00	5,500.00	Bituminous concrete	3,418
Wellfleet	4,200.00	3,000.00	3,000.00	Clay hardening	6,050
<i>Berkshire County</i>					
Adams	\$12,000.00	\$6,000.00	\$6,000.00	Bridge and approaches	—
Alford	1,000.00	500.00	500.00	Gravel	900
			250.00	Oiling	2,000
Alford	500.00	250.00		Gravel and tar	700
Alford	3,750.00	1,875.00	1,875.00	Bridge	—
Becket	2,800.00	1,400.00	1,400.00	Gravel	1,275
				Oiling	1,800
Becket	1,000.00	500.00	500.00	Gravel	650
Cheshire	2,200.00	1,100.00	1,100.00	Gravel	1,650
Clarksburg	1,400.00	700.00	700.00	Gravel and calcium chloride	900
Clarksburg	400.00	400.00	400.00	Repairs and oiling	13,025
Dalton	7,000.00	3,500.00	3,500.00	Bituminous concrete	2,272
Dalton	1,000.00	1,500.00	1,000.00	Bituminous concrete	525
Dalton	400.00	400.00	400.00	Repairs	1,850
Dalton	2,500.00	1,250.00	1,250.00	Stone retread	4,700
Egremont	2,200.00	1,100.00	1,100.00	Gravel	1,250
Florida	2,800.00	2,000.00	1,400.00	Gravel	700
Great Barrington	7,000.00	3,500.00	3,500.00	Bituminous concrete	2,700
Great Barrington	1,200.00	1,200.00	1,200.00	Maintenance	24,469
Hancock	7,000.00	500.00	1,800.00	Bituminous macadam	1,900
Hinsdale	5,182.00	79.00	—	Maintenance	7,271
			500.00	Gravel and tar and stone retread	1,000
Hinsdale	1,500.00	500.00		Maintenance	13,200
Hinsdale	1,027.00	187.00	—	Oiling and stone retread	2,850
Lanesborough	3,500.00	1,750.00	650.00	Gravel	600
Lanesborough	1,400.00	1,000.00	2,100.00	Oiling and stone retread	3,663
Lanesborough	3,500.00	—	3,500.00	Gravel	2,300
Lee	9,300.00	5,000.00	4,650.00	Bridge	
				Bridge extension	
				Bituminous concrete	1,846
				Grading and drainage	1,388
Lenox	3,500.00	2,500.00	1,750.00	Stone retread	1,600
				Grading and drainage	2,450

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town	County		
Lenox	5,600.00	2,500.00	2,800.00	Bituminous concrete	1,157
Monterey	2,100.00	1,050.00	1,050.00	Gravel	1,250
				Oiling	1,975
Mount Washington	1,500.00	500.00	1,000.00	Gravel	1,550
New Ashford	800.00	400.00	400.00	Gravel	700
New Ashford	500.00	250.00	250.00	Gravel	600
New Marlborough	4,200.00	2,100.00	2,100.00	Gravel	2,150
				Oiling and stone retread	2,000
North Adams	15,000.00	9,000.00	7,500.00	Bituminous concrete	2,893
North Adams	3,500.00	—	3,500.00	Gravel	1,950
Otis	3,200.00	2,250.00	1,600.00	Oiling	2,750
				Gravel	1,600
Peru	1,703.00	52.00	—	Maintenance	18,200
Peru	1,425.00	43.00	—	Maintenance	15,300
Pittsfield	42,000.00	30,000.00	40,000.00	Bridge	
				Reinforced cement concrete	240
				Bituminous concrete	6,927
Richmond	1,800.00	900.00	900.00	Gravel	1,300
Richmond	800.00	800.00	800.00	Maintenance	18,480
Sandisfield	2,800.00	2,000.00	1,400.00	Oiling	1,950
				Gravel	1,750
Savoy	1,500.00	500.00	1,500.00	Gravel	1,200
Sheffield	1,400.00	1,000.00	700.00	Gravel	900
Sheffield	1,400.00	1,000.00	700.00	Gravel	1,075
Stockbridge	5,300.00	3,750.00	2,650.00	Bituminous concrete	2,050
Stockbridge	700.00	700.00	700.00	Maintenance	15,165
Tyringham	2,800.00	1,400.00	1,400.00	Oiling	2,950
				Gravel	3,250
Washington	9,000.00	1,500.00	9,000.00	Gravel and tar	7,285
West Stockbridge	2,500.00	1,750.00	1,250.00	Gravel	1,100
West Stockbridge	1,800.00	1,250.00	900.00	Oiling	1,250
				Gravel and tar	1,650
Williamstown	3,500.00	1,750.00	1,750.00	Oiling, gravel and stone re- tread	9,133
Windsor	1,400.00	700.00	700.00	Gravel	1,000
<i>Bristol County</i>					
Acushnet	\$3,500.00	\$2,500.00	\$2,500.00	Bituminous macadam	1,350
Attleboro	9,000.00	4,500.00	4,500.00	Bituminous macadam	2,620
Berkley	1,000.00	1,000.00	1,000.00	Maintenance	46,936
Berkley	1,200.00	600.00	600.00	Bridge repairs	—
Dighton	2,000.00	1,400.00	1,400.00	Bridge repairs	—
Dartmouth	9,100.00	4,550.00	4,550.00	Bituminous concrete	3,600
Easton	7,000.00	3,500.00	3,500.00	Bituminous concrete	1,950
Fairhaven	1,000.00	1,000.00	1,000.00	Maintenance	28,195
Freetown	1,000.00	1,000.00	1,000.00	Maintenance	62,527
North Attleborough	4,900.00	2,450.00	2,450.00	Bituminous concrete	1,250
Norton	500.00	500.00	500.00	Maintenance	23,194
Raynham	500.00	500.00	500.00	Maintenance	16,080
Rehoboth	4,000.00	2,500.00	2,500.00	Gravel and tar	1,800
Rehoboth	800.00	800.00	800.00	Maintenance	53,887
Seekonk	7,000.00	5,000.00	5,000.00	Bituminous concrete	2,330
Taunton	7,000.00	3,500.00	3,500.00	Bituminous concrete	1,090
<i>Dukes County</i>					
Edgartown	\$1,900.00	\$950.00	\$950.00	Maintenance	15,534
Tisbury	1,500.00	750.00	750.00	Maintenance	7,707
Tisbury	1,400.00	700.00	700.00	Maintenance	6,972
West Tisbury	500.00	250.00	250.00	Maintenance	4,150
<i>Essex County</i>					
Amesbury	\$5,600.00	\$2,800.00	\$2,800.00	Gravel and tar	4,200
Amesbury	1,000.00	1,000.00	—	Maintenance	15,200
Andover	8,400.00	4,200.00	4,200.00	Penolithic pavement	3,520
Beverly	6,300.00	3,150.00	3,150.00	Bituminous concrete	3,568
Beverly	2,500.00	1,250.00	1,250.00	Bituminous concrete	1,150
Beverly	5,200.00	2,600.00	2,600.00	Bituminous concrete	1,650
Boxford	2,100.00	1,050.00	1,050.00	Broken stone mixed in place with asphalt emulsion	1,500
Boxford	3,500.00	1,750.00	1,750.00	Grading and drainage	3,985
Boxford	1,000.00	1,000.00	—	Maintenance	7,300
Danvers	8,400.00	4,200.00	4,200.00	Bituminous macadam	2,200
Essex	1,000.00	1,000.00	—	Maintenance	23,750
Georgetown	1,000.00	1,000.00	—	Maintenance	6,800
Gloucester	2,710.20	2,710.20	—	Bituminous macadam	1,200
Gloucester	789.80	789.80	—	Broken stone surfacing	1,200
Groveland	500.00	500.00	—	Maintenance	12,626
Hamilton	5,900.00	4,300.00	2,950.00	Bituminous concrete	3,382
Hamilton	500.00	500.00	—	Maintenance	30,807
Hamilton	2,500.00	1,250.00	1,250.00	Bituminous macadam	2,932
Haverhill	23,000.00	11,500.00	27,500.00	Bituminous macadam	4,311
Haverhill	5,000.00	5,000.00	—	Bituminous concrete	1,210
Hamilton	3,000.00	1,500.00	1,500.00	Roadway slab with sidewalk extension on stone arch bridge	—
Ipswich	3,500.00	1,750.00	1,750.00	Bituminous concrete	1,200
Ipswich	4,500.00	2,250.00	2,250.00	Bituminous concrete	1,200

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town			
Ipswich	4,200.00	2,100.00	2,100.00	Broken stone mixed in place with cut-back asphalt	3,400
Lawrence	5,000.00	2,500.00	2,500.00	Reinforced cement concrete (widening)	2,264
Lawrence	6,300.00	3,150.00	3,150.00	Bituminous concrete	2,370
Lynnfield	3,500.00	1,750.00	1,750.00	Bituminous concrete	623
Lynnfield	4,200.00	2,100.00	2,100.00	Broken stone mixed in place with cut-back asphalt	2,300
Lynnfield	500.00	500.00	—	Maintenance	18,950
Marblehead	14,000.00	7,000.00	7,000.00	Bituminous concrete	3,125
Merrimac	1,500.00	1,500.00	—	Maintenance	10,500
Methuen	14,000.00	7,000.00	7,000.00	Bituminous concrete	2,747
Middleton	12,300.00	1,900.00	4,700.00	Bituminous concrete	2,300
Middleton	1,000.00	1,000.00	—	Maintenance	14,414
Newbury	1,500.00	1,500.00	—	Maintenance	10,000
North Andover	4,900.00	2,450.00	2,450.00	Broken stone mixed in place with cut-back asphalt	3,100
Peabody	9,100.00	4,550.00	4,550.00	Bituminous macadam	2,044
Rockport	2,100.00	1,050.00	1,050.00	Broken stone mixed in place with asphalt	2,050
Rockport	2,100.00	1,050.00	1,050.00	Broken stone mixed in place with asphalt	650
Rockport	500.00	500.00	—	Maintenance	3,000
Rowley	1,400.00	700.00	700.00	Gravel and tar	2,400
Salisbury	2,100.00	1,050.00	1,050.00	Grading	1,950
Salisbury	1,400.00	700.00	700.00	Gravel mixed in place with tar	1,250
Saugus	2,800.00	2,000.00	1,400.00	Penolithic pavement	918
Saugus	4,200.00	3,000.00	2,100.00	Penolithic pavement (wid- ening)	4,000
Swampscott	2,100.00	1,050.00	1,050.00	Bituminous macadam	400
Topsfield	9,100.00	1,400.00	3,500.00	Bituminous concrete	2,544
Topsfield	1,000.00	1,000.00	—	Maintenance	21,400
Wenham	9,100.00	1,400.00	3,500.00	Bituminous concrete	1,972
Wenham				Bituminous concrete	800
West Newbury	3,500.00	1,750.00	1,750.00	Grading and drainage	2,050
<i>Franklin County</i>					
Ashfield	\$1,000.00	\$500.00	\$500.00	Gravel and tar	2,700
Ashfield	1,344.00	96.00	—	Maintenance	12,672
Ashfield	1,000.00	500.00	500.00	Gravel mixed in place with tar	2,400
Buckland	1,400.00	700.00	700.00	Broken stone mixed in place with cut-back asphalt	2,500
Charlemont	1,400.00	700.00	700.00	Grading	1,800
Colrain	1,400.00	700.00	700.00	Grading and drainage	900
Conway	2,100.00	1,400.00	700.00	Gravel	750
Deerfield	1,400.00	700.00	700.00	Bituminous macadam	685
Erving	1,400.00	700.00	700.00	Gravel	900
Gill	1,400.00	700.00	700.00	Gravel mixed in place with tar	700
Gill	2,448.00	352.00	—	Maintenance	14,784
Greenfield	3,500.00	2,800.00	700.00	Bituminous macadam	4,050
Hawley	1,400.00	350.00	350.00	Gravel	800
Hawley	1,400.00	350.00	350.00	Gravel	400
Heath	1,400.00	700.00	700.00	Gravel	600
Leverett	1,400.00	700.00	700.00	Gravel mixed in place with tar	1,800
Leyden	2,800.00	700.00	700.00	Grading	1,550
Monroe	1,400.00	700.00	700.00	Gravel	600
Montague	6,300.00	5,600.00	700.00	Bituminous macadam	2,807
New Salem	2,100.00	1,400.00	700.00	Gravel mixed in place with tar	8,400
New Salem	900.00	600.00	300.00	Grading	600
Northfield	1,400.00	700.00	700.00	Gravel mixed in place with tar	3,000
Orange	7,500.00	6,500.00	1,000.00	Bituminous concrete	2,649
Orange	560.00	280.00	—	Maintenance	7,392
Orange	1,500.00	1,500.00	—	Maintenance	22,570
Rowe	2,100.00	1,050.00	700.00	Gravel	1,625
Shelburne	1,400.00	700.00	700.00	Bituminous macadam	1,600
Shutesbury	1,400.00	700.00	700.00	Gravel	750
Sunderland	7,700.00	3,000.00	700.00	Bituminous macadam	5,258
Warwick	1,400.00	700.00	700.00	Gravel	600
Warwick	3,365.00	55.00	—	Maintenance	30,624
Wendell	2,100.00	1,400.00	700.00	Gravel	2,250
Wendell	1,250.00	1,250.00	—	Maintenance	25,872
Whately	1,400.00	700.00	700.00	Bituminous macadam	1,050
<i>Hampden County</i>					
Agawam	\$7,700.00	\$3,850.00	\$3,850.00	Bituminous macadam	2,825
Agawam	1,200.00	600.00	600.00	Repairs and oiling	19,008
Elandford	4,500.00	2,000.00	2,500.00	Bridge and approaches	—
Brimfield	2,800.00	1,400.00	1,400.00	Oiling	2,200
Brimfield	2,800.00	1,400.00	1,400.00	Gravel mixed in place with tar	1,750
Brimfield	1,000.00	1,000.00	1,000.00	Maintenance	36,532

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town	County		
Chester	600.00	600.00	600.00	Maintenance	14,150
Chester	2,800.00	700.00	1,400.00	Stone retread	4,700
Chester	2,800.00	700.00	1,400.00	Oiling	6,500
Chicopee	17,900.00	3,950.00	8,950.00	Gravel	1,170
East Longmeadow	7,000.00	3,500.00	3,500.00	Bituminous concrete	7,698
East Longmeadow	400.00	400.00	400.00	Bituminous macadam	3,300
East Longmeadow	800.00	400.00	400.00	Maintenance	8,750
East Longmeadow	1,400.00	700.00	700.00	Gravel mixed in place with tar	2,250
Granville	4,200.00	2,100.00	2,100.00	Gravel mixed in place with tar	2,123
Hampden	2,100.00	800.00	1,300.00	Bituminous macadam	1,200
Hampden	400.00	400.00	400.00	Gravel mixed in place with tar	2,000
Holland	2,800.00	700.00	2,100.00	Maintenance	12,600
Holland	500.00	500.00	500.00	Gravel mixed in place with tar	3,575
Holland	250.00	250.00	250.00	Maintenance	25,600
Longmeadow	6,000.00	3,000.00	3,000.00	Maintenance	20,750
Ludlow	3,400.00	1,700.00	1,700.00	Gravel mixed in place with cut-back asphalt	6,471
Ludlow	2,500.00	1,250.00	1,250.00	Bituminous macadam	1,600
Ludlow	1,500.00	750.00	750.00	Bituminous macadam	1,100
Monson	3,500.00	2,500.00	1,750.00	Bituminous macadam	700
Monson	3,500.00	2,500.00	1,750.00	Gravel mixed in place with asphaltic oil	2,300
Monson	500.00	500.00	500.00	Bituminous concrete	1,220
Montgomery	3,500.00	700.00	1,800.00	Maintenance	12,050
Montgomery	300.00	300.00	300.00	Stone retread	2,500
Palmer	7,000.00	5,000.00	3,500.00	Gravel	2,150
Palmer	1,000.00	1,000.00	1,000.00	Maintenance	7,250
Russell	750.00	375.00	375.00	Bituminous concrete	2,294
Russell	150.00	150.00	150.00	Maintenance	18,700
Southwick	3,500.00	1,400.00	2,100.00	Retaining wall Repairs	1,900
Southwick	2,260.00	740.00	—	Bituminous macadam	13,728
Southwick	700.00	700.00	700.00	Maintenance	16,368
Springfield	29,800.00	14,900.00	14,900.00	Bituminous concrete	9,100
Tolland	3,500.00	1,400.00	2,100.00	Stone retread	4,150
Wales	2,100.00	1,050.00	1,050.00	Gravel	650
Wales	300.00	300.00	300.00	Gravel mixed in place with tar	1,700
West Springfield	11,600.00	5,800.00	5,800.00	Maintenance	13,000
Westfield	2,100.00	1,050.00	1,050.00	Bituminous concrete	1,252
Westfield	4,200.00	2,100.00	2,100.00	Bituminous macadam	2,270
Westfield	1,000.00	1,000.00	1,000.00	Gravel stone mixed in place with tar	5,000
Wilbraham	2,800.00	1,400.00	1,400.00	Maintenance	18,555
Wilbraham	1,000.00	500.00	500.00	Bituminous macadam	1,700
Wilbraham	350.00	350.00	350.00	Bituminous macadam	1,800
Wilbraham				Maintenance	9,350
<i>Hampshire County</i>					
Amherst	\$8,400.00	\$5,600.00	\$2,800.00	Bituminous macadam	2,700
Belchertown	5,300.00	2,650.00	2,650.00	Bituminous concrete	3,200
Belchertown	1,288.00	92.00	—	Maintenance	12,144
Chesterfield	1,000.00	500.00	500.00	Gravel	500
Chesterfield	1,000.00	500.00	500.00	Gravel and tar	542
Chesterfield	1,000.00	500.00	500.00	Gravel	600
Chesterfield	250.00	250.00	250.00	Maintenance	5,280
Chesterfield	3,450.00	150.00	—	Maintenance	31,680
Cummington	1,800.00	900.00	200.00	Gravel	1,100
Cummington	400.00	200.00	200.00	Gravel	400
Cummington	250.00	250.00	250.00	Maintenance	2,500
Cummington	863.00	37.00	—	Maintenance	7,920
Easthampton	13,000.00	6,500.00	6,500.00	Bridge	—
Easthampton	3,200.00	1,800.00	1,400.00	Bituminous concrete	1,800
Enfield	500.00	500.00	500.00	Maintenance	13,200
Goshen	1,400.00	700.00	700.00	Gravel	900
Goshen	1,035.00	45.00	—	Maintenance	9,504
Granby	2,800.00	1,400.00	1,400.00	Bituminous macadam	1,100
Greenwich	1,000.00	500.00	500.00	Repairs and oiling	19,536
Hadley	3,600.00	1,800.00	1,800.00	Gravel and asphaltic oil	2,050
Hadley	400.00	400.00	400.00	Bituminous macadam	725
Huntington	2,800.00	1,400.00	1,400.00	Maintenance	10,650
Huntington				Gravel and tar	5,000
Middlefield	1,400.00	700.00	700.00	Gravel	685
Middlefield	1,000.00	500.00	500.00	Oiling and stone retread	1,800
Middlefield	3,294.00	506.00	500.00	Gravel	550
Northampton	2,100.00	1,050.00	1,050.00	Stone retread	2,200
Northampton	1,400.00	700.00	700.00	Bituminous macadam	1,390
Northampton				Gravel mixed in place with tar	2,700
Northampton	4,200.00	2,100.00	2,100.00	Bituminous macadam	2,050
Northampton	5,000.00	2,500.00	2,500.00	Bituminous concrete	1,350
Pelham	18,250.00	2,000.00	6,750.00	Bituminous concrete	4,950

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD OR NATURE OF WORK	LENGTH CON-
	State	Town			TRACTED FOR (FEET)
Plainfield	1,400.00	700.00	700.00	Gravel and tar	900
Plainfield	300.00	300.00	300.00	Maintenance	7,000
Plainfield	1,463.00	37.00	—	Maintenance	10,560
South Hadley	6,200.00	3,100.00	3,100.00	Bituminous concrete	3,538
South Hadley	1,400.00	700.00	700.00	Repairs and drainage	8,000
Southampton	1,000.00	500.00	500.00	Stone retread	1,475
Ware	3,500.00	1,750.00	1,750.00	Bituminous concrete (wid-	
				ening)	3,444
Westhampton	1,400.00	700.00	700.00	Gravel	1,000
Westhampton	500.00	500.00	500.00	Maintenance	10,000
Williamsburg	1,800.00	900.00	900.00	Bridge and approaches	—
Williamsburg	250.00	250.00	250.00	Maintenance	5,280
Worthington	2,000.00	1,000.00	1,000.00	Gravel	1,500
Worthington	1,400.00	1,000.00	1,000.00	Gravel	754
Worthington	593.00	34.00	—	Maintenance	7,193
Worthington	2,960.00	135.00	—	Maintenance	28,700
<i>Middlesex County</i>					
Acton	\$3,500.00	\$2,500.00	\$2,500.00	Bituminous concrete	1,200
Acton	1,400.00	2,000.00	2,000.00	Maintenance	102,432
Acton	1,400.00	1,000.00	1,600.00	Gravel and tar	420
Arlington	4,200.00	3,000.00	3,000.00	Bituminous concrete	780
Ashby	500.00	1,000.00	1,000.00	Maintenance	19,536
Ashby	1,000.00	500.00	1,000.00	Gravel and tar	1,500
Ashland	1,500.00	1,500.00	1,500.00	Maintenance	31,680
Ashland	1,000.00	500.00	1,000.00	Gravel and tar	1,550
Ayer	4,900.00	3,500.00	3,500.00	Bituminous concrete	1,950
Ayer	1,400.00	2,000.00	2,000.00	Maintenance	50,054
Bedford	1,400.00	2,000.00	2,000.00	Maintenance	46,464
Bedford	1,800.00	1,000.00	1,000.00	Bituminous macadam	1,000
Bedford	3,500.00	2,000.00	2,000.00	Bituminous concrete	1,500
Belmont	4,500.00	4,500.00	4,500.00	Bituminous concrete	1,950
Billerica	2,100.00	3,000.00	3,000.00	Maintenance	99,422
Billerica	4,200.00	3,000.00	3,000.00	Bituminous macadam	1,900
Billerica	4,200.00	3,000.00	3,000.00	Bituminous concrete	1,550
Boxborough	700.00	800.00	800.00	Maintenance	44,035
Boxborough	500.00	250.00	250.00	Gravel and tar	1,400
Burlington	2,100.00	3,000.00	3,000.00	Maintenance	85,536
Burlington	2,200.00	2,000.00	2,000.00	Bituminous macadam (wid-	
				ening)	2,800
Burlington	2,800.00	2,000.00	2,000.00	Gravel (widening)	4,500
Cambridge	16,000.00	16,000.00	—	Bituminous concrete	4,212
Cambridge	29,000.00	29,000.00	—	Bituminous concrete	4,393
Carlisle	1,500.00	1,500.00	1,500.00	Maintenance	64,944
Chelmsford	2,100.00	3,000.00	3,000.00	Maintenance	83,952
Chelmsford	4,200.00	3,500.00	3,500.00	Bituminous concrete	1,650
Concord	1,500.00	1,500.00	1,500.00	Maintenance	99,739
Concord	4,000.00	4,405.00	4,000.00	Bituminous macadam	1,635
Concord	7,200.00	6,000.00	4,800.00	Bituminous concrete	1,960
Dracut	2,100.00	3,000.00	3,000.00	Maintenance	56,232
Dracut	4,200.00	3,000.00	3,000.00	Bituminous concrete	1,500
Dunstable	1,500.00	1,500.00	1,500.00	Maintenance	50,160
Dunstable	1,400.00	1,000.00	1,000.00	Gravel (widening)	2,000
Everett	35,000.00	35,000.00	—	Bituminous concrete	6,813
Framingham	9,200.00	8,400.00	8,400.00	Penolithic pavement	4,026
Framingham	5,500.00	5,900.00	5,900.00	Bituminous concrete	1,750
Framingham	1,400.00	2,000.00	2,000.00	Maintenance	85,483
Groton	2,500.00	3,500.00	3,500.00	Maintenance	58,186
Groton	4,200.00	3,000.00	3,000.00	Gravel and tar	8,350
Holliston	1,500.00	1,500.00	1,500.00	Maintenance	53,328
Holliston	4,200.00	1,000.00	4,000.00	Bituminous concrete	1,650
Hopkinton	1,400.00	2,000.00	2,000.00	Maintenance	70,224
Hopkinton	2,800.00	3,000.00	3,000.00	Bituminous macadam	1,775
Hudson	1,400.00	2,000.00	2,000.00	Maintenance	42,134
Hudson	3,800.00	2,700.00	2,700.00	Penolithic pavement	1,360
Hudson	8,800.00	8,500.00	6,000.00	Bituminous concrete	2,290
Lexington	2,100.00	3,000.00	3,000.00	Maintenance	61,829
Lexington	1,400.00	1,000.00	1,000.00	Penolithic pavement	250
Lexington	6,600.00	4,000.00	4,000.00	Penolithic pavement	1,810
Lincoln	1,000.00	1,000.00	1,000.00	Maintenance	36,960
Lincoln	2,100.00	1,500.00	1,500.00	Gravel and tar	1,900
Littleton	1,400.00	2,100.00	2,100.00	Maintenance	67,742
Littleton	2,100.00	1,500.00	1,500.00	Gravel and tar	2,500
Lowell	21,000.00	14,000.00	7,000.00	Bituminous concrete	5,900
Malden	15,550.00	7,775.00	7,775.00	Bituminous concrete	2,155
Malden	12,450.00	6,225.00	6,225.00	Bituminous concrete	2,360
Marlborough	2,800.00	2,000.00	2,000.00	Bituminous macadam	675
Marlborough	8,400.00	6,000.00	6,000.00	Bituminous concrete	2,125
Maynard	1,500.00	1,500.00	1,500.00	Maintenance	36,274
Maynard	8,400.00	8,000.00	7,000.00	Bituminous concrete	3,250
Medford	25,000.00	22,500.00	20,000.00	Bituminous concrete	4,113
Natick	1,500.00	1,500.00	1,500.00	Maintenance	59,822
Natick	1,400.00	700.00	700.00	Drainage	—
Natick	10,500.00	8,000.00	7,500.00	Bituminous concrete	2,510
Newton	*8,000.00	12,000.00	*4,000.00	Grading and drainage	1,562

* Transferred from 1936 contract.

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town			
North Reading	1,400.00	2,000.00	2,000.00	Maintenance	52,272
North Reading	4,200.00	3,000.00	3,000.00	Bituminous concrete	2,600
Pepperell	2,800.00	4,000.00	4,000.00	Maintenance	83,424
Reading	1,000.00	1,000.00	1,000.00	Maintenance	33,634
Reading	5,600.00	4,000.00	4,000.00	Penolithic pavement	1,650
Reading	5,600.00	4,000.00	4,000.00	Bituminous concrete	1,625
Sherborn	1,800.00	2,250.00	2,250.00	Maintenance	74,448
Shirley	1,400.00	2,000.00	2,000.00	Maintenance	51,216
Shirley	2,141.00	1,529.50	1,529.50	Gravel and tar	2,568
Shirley	3,459.00	2,470.50	2,470.50	Gravel and cut-back asphalt	4,000
Stoneham	13,100.00	9,333.00	7,000.00	Penolithic pavement	3,170
Stoneham	1,000.00	1,000.00	1,000.00	Maintenance	35,587
Stow	1,400.00	2,000.00	2,000.00	Maintenance	41,184
Sudbury	1,400.00	2,000.00	2,000.00	Maintenance	81,840
Sudbury	2,800.00	2,000.00	2,000.00	Gravel and tar	3,300
Tewksbury	1,400.00	2,500.00	2,500.00	Maintenance	55,440
Tewksbury	1,400.00	1,000.00	1,000.00	Gravel and tar	1,500
Tewksbury	3,500.00	2,500.00	2,500.00	Gravel and tar	3,600
Tewksbury	700.00	425.00	425.00	Gravel	400
Tewksbury	700.00	400.00	400.00	Gravel and tar	700
Townsend	1,400.00	2,000.00	2,000.00	Maintenance	41,554
Townsend	1,400.00	1,000.00	1,000.00	Gravel and tar	2,000
Townsend	1,400.00	1,000.00	1,000.00	Gravel and tar	1,800
Tyngsborough	1,800.00	2,500.00	2,500.00	Maintenance	86,592
Tyngsborough	1,400.00	1,000.00	1,400.00	Gravel and tar	2,000
Tyngsborough	1,400.00	1,000.00	1,400.00	Gravel and tar	1,300
Wakefield	1,400.00	1,700.00	2,000.00	Maintenance	42,504
Wakefield	8,900.00	6,675.00	4,450.00	Bituminous concrete	3,500
Wakefield	2,300.00	1,150.00	1,150.00	Bituminous concrete	525
Waltham	5,600.00	4,000.00	4,000.00	Bituminous macadam	3,450
Waltham	12,600.00	8,400.00	6,000.00	Bituminous concrete	3,745
Watertown	5,309.75	3,792.13	3,792.13	Bituminous concrete	2,090
Watertown	6,991.21	8,307.39	5,307.39	Bituminous concrete	1,860
Wayland	6,300.00	6,000.00	6,000.00	Bituminous concrete	1,320
Wayland				Gravel and tar	3,273
Wayland	1,800.00	2,500.00	2,500.00	Maintenance	52,800
Westford	2,100.00	3,000.00	3,000.00	Maintenance	143,088
Westford	1,400.00	1,000.00	1,000.00	Gravel and tar (widening)	3,000
Wilmington	1,200.00	1,200.00	1,200.00	Maintenance	40,762
Wilmington	2,800.00	2,000.00	2,000.00	Gravel and tar	1,900
Winchester	3,500.00	3,000.00	3,000.00	Bituminous concrete	860
Winchester	10,500.00	7,000.00	5,000.00	Bituminous concrete	3,260
Woburn	14,000.00	7,000.00	7,000.00	Bituminous concrete	3,800
Woburn	21,000.00	10,500.00	10,500.00	Bituminous concrete	4,650
<i>Nantucket County</i>					
Nantucket	\$1,000.00	\$2,000.00	—	Maintenance	10,800
<i>Norfolk County</i>					
Avon	\$1,300.00	\$1,300.00	\$1,300.00	Maintenance	29,198
Bellingham	1,400.00	500.00	1,000.00	Maintenance	62,040
Bellingham	1,400.00	2,000.00	—	Grading and drainage	2,650
Braintree	13,000.00	13,000.00	—	Grading and drainage	2,489
Brookline	3,500.00	3,500.00	—	Bituminous concrete	2,118
Canton	1,000.00	1,000.00	—	Maintenance	38,174
Dedham	7,000.00	10,000.00	—	Bituminous concrete	2,185
Dedham	1,000.00	1,000.00	1,000.00	Maintenance	5,174
Dover	600.00	600.00	600.00	Maintenance	2,700
Foxborough	3,500.00	3,500.00	—	Gravel and tar	3,400
Foxborough	1,000.00	1,000.00	1,000.00	Maintenance	5,000
Franklin	4,600.00	6,500.00	—	Gravel and tar	4,540
Franklin	1,500.00	1,500.00	1,500.00	Maintenance	98,261
Holbrook	500.00	500.00	500.00	Maintenance	29,462
Medway	1,500.00	1,500.00	1,500.00	Maintenance	61,618
Medway	1,800.00	2,500.00	—	Gravel and tar	2,400
Millis	1,000.00	1,000.00	1,000.00	Maintenance	66,739
Milton	500.00	500.00	500.00	Maintenance	500
Needham	500.00	500.00	500.00	Maintenance	42,768
Norfolk	1,500.00	1,500.00	1,500.00	Maintenance	63,571
Norwood	24,500.00	24,500.00	—	Bituminous concrete	3,200
Norwood	300.00	600.00	300.00	Repairs	185
Plainville	500.00	500.00	500.00	Maintenance	12,672
Quincy	21,000.00	21,000.00	—	Bituminous concrete	4,900
Randolph	1,500.00	1,500.00	1,500.00	Maintenance	27,456
Sharon	1,000.00	1,000.00	1,000.00	Maintenance	46,464
Sharon	3,500.00	5,000.00	—	Bituminous concrete	2,080
Stoughton	1,000.00	1,000.00	1,000.00	Maintenance	29,146
Walpole	1,000.00	1,000.00	1,000.00	Maintenance	53,750
Walpole	7,200.00	7,200.00	—	Bituminous concrete	2,950
Walpole	3,500.00	3,500.00	—	Penolithic pavement	1,000
Wellesley	5,500.00	5,500.00	—	Bituminous concrete	5,000
Westwood	1,500.00	1,500.00	1,500.00	Maintenance	sq. yds. 21,331
Westwood	10,500.00	10,500.00	—	Bituminous macadam	3,800
Westwood	300.00	600.00	300.00	Repairs	165
Weymouth	14,000.00	14,000.00	—	Bituminous concrete	2,882

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town			
Wrentham . . .	1,000.00	1,000.00	1,000.00	Maintenance . . .	24,974
Wrentham . . .	1,000.00	1,000.00	—	Gravel and tar . . .	550
Wrentham . . .	2,800.00	2,800.00	—	Gravel and tar . . .	1,700
<i>Plymouth County</i>					
Abington . . .	\$7,000.00	\$4,500.00	\$3,500.00	Bituminous concrete . . .	1,695
Brockton . . .	6,300.00	6,300.00	—	Bituminous macadam . . .	5,800
Brockton . . .	21,500.00	21,500.00	—	Bituminous macadam . . .	4,861
Carver . . .	2,800.00	1,400.00	1,400.00	Gravel mixed in place with tar . . .	4,100
Halifax . . .	1,700.00	850.00	850.00	Gravel and tar . . .	3,300
Hanover . . .	4,200.00	2,100.00	2,100.00	Gravel and tar . . .	1,750
Hanson . . .	7,000.00	3,500.00	3,500.00	Concrete extensions to stone arch bridge . . .	—
Kingston . . .	5,600.00	2,800.00	2,800.00	Bituminous concrete . . .	1,450
Lakeville . . .	1,400.00	700.00	700.00	Gravel mixed in place with tar . . .	4,300
Marion . . .	3,000.00	1,500.00	1,500.00	Gravel mixed in place with emulsion . . .	1,600
Marshfield . . .	7,000.00	3,500.00	3,500.00	Penolithic pavement . . .	850
Mattapoisett . . .	3,500.00	1,750.00	1,750.00	Bituminous macadam . . .	2,500
Pembroke . . .	3,500.00	1,750.00	1,750.00	Bituminous concrete . . .	950
Pembroke . . .	1,000.00	750.00	500.00	Gravel mixed in place with tar . . .	5,050
Plymouth . . .	5,300.00	2,650.00	2,650.00	Gravel mixed in place with tar . . .	2,450
Plympton . . .	7,000.00	350.00	3,150.00	Gravel mixed in place with tar . . .	6,250
Rochester . . .	2,800.00	1,400.00	1,400.00	Gravel and tar . . .	4,600
Rochester . . .	1,500.00	750.00	750.00	Gravel mixed in place with cut-back asphalt . . .	2,500
Rockland . . .	7,000.00	3,500.00	3,500.00	Bituminous concrete . . .	1,500
Wareham . . .	5,600.00	2,800.00	2,800.00	Bituminous concrete . . .	1,545
West Bridgewater . . .	1,400.00	700.00	700.00	Drainage . . .	—
West Bridgewater . . .	3,500.00	1,750.00	1,750.00	Gravel and tar . . .	750
Whitman . . .	14,000.00	7,000.00	7,000.00	Bituminous concrete . . .	1,000
Whitman . . .	6,000.00	—	3,000.00	Bituminous concrete . . .	3,080
Whitman . . .	6,000.00	—	3,000.00	Bituminous concrete . . .	880
<i>Worcester County</i>					
Ashburnham . . .	\$1,400.00	\$1,000.00	\$2,000.00	Gravel mixed in place with tar . . .	1,250
Ashburnham . . .	1,500.00	1,000.00	1,750.00	Maintenance . . .	34,950
Athol . . .	1,500.00	1,500.00	1,500.00	Maintenance . . .	44,565
Athol . . .	8,400.00	6,000.00	6,000.00	Bituminous concrete . . .	1,475
Athol . . .	2,800.00	2,000.00	2,000.00	Gravel mixed in place with tar . . .	3,550
Auburn . . .	300.00	300.00	300.00	Maintenance . . .	13,140
Auburn . . .	7,000.00	5,000.00	5,000.00	Broken stone mixed in place with cut-back asphalt . . .	3,533
Barre . . .	1,000.00	1,000.00	1,000.00	Maintenance . . .	42,800
Barre . . .	7,000.00	5,000.00	5,000.00	Bridge and approaches . . .	—
Berlin . . .	1,800.00	1,000.00	2,500.00	Gravel mixed in place with tar . . .	800
Berlin . . .	1,400.00	1,000.00	1,000.00	Maintenance . . .	53,130
Blackstone . . .	1,000.00	1,000.00	1,000.00	Gravel mixed in place with tar . . .	1,494
Blackstone . . .	2,800.00	2,000.00	500.00	Maintenance . . .	47,892
Blackstone . . .	4,200.00	3,000.00	3,000.00	Grading and drainage . . .	2,550
Bolton . . .	1,500.00	1,000.00	1,500.00	Trap rock mixed in place with tar . . .	6,040
Bolton . . .	2,100.00	1,050.00	1,050.00	Maintenance . . .	47,448
Boylston . . .	1,400.00	700.00	1,400.00	Grading . . .	1,800
Brookfield . . .	1,400.00	700.00	1,400.00	Maintenance . . .	51,054
Brookfield . . .	1,500.00	750.00	750.00	Maintenance . . .	26,280
Brookfield . . .	1,400.00	1,000.00	1,000.00	Repairs . . .	1,400
Charlton . . .	1,500.00	800.00	1,600.00	Gravel mixed in place with tar . . .	312
Charlton . . .	2,300.00	1,500.00	1,800.00	Bituminous concrete . . .	88
Charlton . . .	1,600.00	1,000.00	1,300.00	Bituminous macadam . . .	125
Clinton . . .	300.00	300.00	300.00	Maintenance . . .	44,750
Clinton . . .	8,400.00	6,000.00	6,000.00	Gravel mixed in place with tar . . .	1,900
Dana . . .	1,800.00	1,000.00	2,500.00	Grading . . .	4,849
Dana . . .	1,500.00	500.00	1,500.00	Maintenance . . .	17,400
Douglas . . .	500.00	500.00	500.00	Bituminous macadam . . .	3,676
Douglas . . .	5,000.00	2,500.00	2,500.00	Maintenance . . .	75,140
Dudley . . .	300.00	300.00	300.00	Gravel and tar . . .	2,050
Dudley . . .	4,200.00	2,100.00	2,100.00	Maintenance . . .	24,000
Dudley . . .	300.00	300.00	300.00	Gravel mixed in place with asphalt . . .	1,485
Dudley . . .	4,200.00	2,100.00	2,100.00	Grading . . .	1,200
Dudley . . .	300.00	300.00	300.00	Maintenance . . .	27,410
Dudley . . .	4,200.00	2,100.00	2,100.00	Gravel mixed in place with asphalt . . .	3,000

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town	County		
Dudley	1,400.00	1,400.00	1,400.00	Gravel mixed in place with tar	200 24,935
East Brookfield	600.00	600.00	600.00	Maintenance	
East Brookfield	2,100.00	1,400.00	1,400.00	Gravel mixed in place with tar	2,200
East Brookfield	1,800.00	1,250.00	1,250.00	Bridge and approaches	—
Fitchburg	17,500.00	12,500.00	12,500.00	Bituminous macadam	2,695
Gardner	400.00	400.00	400.00	Maintenance	13,250
Gardner	7,000.00	3,500.00	3,500.00	Bituminous macadam	3,150
Grafton	2,800.00	3,000.00	2,000.00	Broken stone and asphalt emulsion	1,300
Grafton	1,300.00	650.00	650.00	Bituminous macadam	183
Hardwick	1,000.00	1,300.00	1,000.00	Maintenance	52,910
Harvard	1,000.00	1,000.00	1,000.00	Maintenance	46,800
Harvard	5,000.00	1,100.00	4,000.00	Grading and drainage	2,500
Holden	1,000.00	1,000.00	1,000.00	Maintenance	48,998
Holden	5,700.00	2,850.00	2,850.00	Bridge and approaches	—
Holden	3,500.00	2,500.00	2,500.00	Gravel mixed in place with tar	2,300
Hubbardston	1,700.00	1,200.00	2,400.00	Maintenance	66,220
Hubbardston	2,800.00	1,000.00	4,000.00	Gravel mixed in place with tar	2,246
Leicester	900.00	1,200.00	1,200.00	Maintenance	49,700
Leicester	4,900.00	5,000.00	5,000.00	Broken stone mixed in place with asphalt	2,350
Lunenburg	1,500.00	1,500.00	1,500.00	Maintenance	51,060
Lunenburg	2,100.00	1,500.00	1,500.00	Gravel mixed in place with tar	1,550
Mendon	1,000.00	1,000.00	1,000.00	Maintenance	39,684
Mendon	1,600.00	1,100.00	1,100.00	Gravel mixed in place with tar	1,710
Mendon	1,400.00	1,000.00	1,000.00	Gravel mixed in place with tar	2,400
Milford	500.00	500.00	500.00	Maintenance	22,940
Milford	10,500.00	8,250.00	8,250.00	Bituminous concrete	3,725
Millbury	600.00	600.00	600.00	Maintenance	29,729
Millbury	6,423.48	4,588.26	4,588.26	Bituminous concrete	1,600
Millbury	576.52	1,411.74	1,411.74	Grading	1,750
Millville	1,500.00	—	1,500.00	Maintenance	16,211
New Braintree	1,000.00	500.00	1,000.00	Maintenance	51,063
New Braintree	1,400.00	1,000.00	1,000.00	Gravel mixed in place with tar	450
North Brookfield	4,600.00	2,900.00	2,900.00	Gravel mixed in place with tar	2,650
North Brookfield	500.00	500.00	500.00	Maintenance	30,815
Northborough	300.00	300.00	300.00	Maintenance	18,152
Northbridge	500.00	500.00	500.00	Maintenance	35,535
Northbridge	3,500.00	2,500.00	2,500.00	Gravel mixed in place with asphaltic oil	2,050
Oakham	1,300.00	1,100.00	1,300.00	Grading	1,050
Oakham	3,500.00	2,000.00	2,000.00	Maintenance	44,450
Oxford	1,000.00	1,000.00	1,000.00	Gravel mixed in place with asphalt	2,400
Oxford	1,500.00	500.00	500.00	Repairs and oiling	12,713
Paxton	1,500.00	800.00	1,600.00	Bridge repairs	—
Paxton	3,200.00	1,500.00	3,000.00	Maintenance	41,100
Petersham	1,500.00	1,500.00	1,500.00	Gravel mixed in place with tar	3,400
Phillipston	1,500.00	1,000.00	1,500.00	Maintenance	39,813
Phillipston	2,100.00	1,000.00	2,000.00	Maintenance	49,154
Princeton	1,600.00	1,500.00	2,250.00	Gravel mixed in place with tar	1,450
Princeton	2,800.00	1,400.00	1,400.00	Maintenance	95,120
Princeton	2,800.00	1,400.00	1,400.00	Gravel mixed in place with tar	1,750
Royalston	1,900.00	1,300.00	2,300.00	Gravel mixed in place with tar	2,900
Royalston	1,250.00	500.00	750.00	Oiling	850
Royalston	1,250.00	500.00	750.00	Maintenance	53,000
Rutland	1,500.00	1,600.00	2,200.00	Gravel and tar	1,650
Rutland	2,100.00	1,500.00	1,500.00	Oiling	1,300
Rutland	2,100.00	1,500.00	1,500.00	Repairs and drainage	21,200
Rutland	2,100.00	1,500.00	1,500.00	Maintenance	60,300
Shrewsbury	1,500.00	1,500.00	1,500.00	Gravel mixed in place with tar	1,750
Southborough	600.00	600.00	600.00	Gravel mixed in place with tar	2,100
Southborough	2,100.00	1,000.00	2,000.00	Maintenance	35,594
Southbridge	750.00	750.00	750.00	Maintenance	25,460
Southbridge	20,000.00	10,000.00	10,000.00	Broken stone and asphalt emulsion	1,009
Spencer	1,000.00	1,000.00	1,000.00	Maintenance	27,400
Spencer	3,500.00	2,500.00	2,500.00	Bridge	—
Sterling	2,000.00	2,000.00	2,900.00	Maintenance	44,000
				Bituminous macadam	730
				Maintenance	93,661

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town			
Sterling	1,900.00	1,000.00	1,750.00	Gravel mixed in place with asphaltic oil	1,450
Sterling	3,900.00	2,000.00	2,000.00	Broken stone mixed in place with asphalt	1,300
Sturbridge	350.00	350.00	350.00	Gravel and asphalt	770
Sturbridge	2,500.00	1,200.00	2,400.00	Maintenance	18,150
Sutton	1,000.00	1,000.00	1,000.00	Gravel mixed in place with tar	2,300
Sutton	2,800.00	2,000.00	2,000.00	Maintenance	50,892
Sutton	2,800.00	2,000.00	2,000.00	Gravel mixed in place with asphalt	1,600
Templeton	1,500.00	1,500.00	1,500.00	Gravel mixed in place with asphalt	3,750
Templeton	4,200.00	3,000.00	3,000.00	Maintenance	45,460
Upton	700.00	700.00	700.00	Gravel mixed in place with asphalt	4,200
Upton	2,800.00	2,000.00	2,000.00	Maintenance	25,450
Uxbridge	1,000.00	1,000.00	1,000.00	Gravel mixed in place with tar	1,450
Uxbridge	5,600.00	4,000.00	4,000.00	Maintenance	45,510
Uxbridge	5,600.00	4,000.00	4,000.00	Broken stone mixed in place with asphalt	2,800
Warren	500.00	500.00	500.00	Bituminous concrete	3,700
Webster	4,900.00	3,500.00	3,500.00	Maintenance	17,100
West Boylston . . .	1,050.00	840.00	1,500.00	Bituminous macadam	2,600
West Boylston . . .	1,980.00	1,120.00	1,300.00	Maintenance	51,400
West Boylston . . .	1,800.00	1,000.00	1,500.00	Bituminous macadam	2,000
West Brookfield . .	1,000.00	1,000.00	1,000.00	Gravel mixed in place with tar	1,150
West Brookfield . .	7,000.00	2,000.00	8,000.00	Maintenance	74,205
Westborough	900.00	900.00	900.00	Bituminous concrete	2,449
Westborough	8,900.00	5,950.00	5,950.00	Maintenance	51,700
Westminster	1,400.00	1,000.00	2,000.00	Bituminous macadam	4,030
Westminster	3,500.00	2,000.00	3,000.00	Maintenance	66,474
Winchendon	500.00	500.00	500.00	Gravel mixed in place with asphalt	1,900
Worcester	32,000.00	16,000.00	16,000.00	Maintenance	19,528
Worcester	23,000.00	19,000.00	19,000.00	Bituminous concrete	5,985
Worcester				Bituminous concrete	3,813

EXPENDITURES FOR CONSTRUCTION OF TOWN AND COUNTY WAYS

(Section 34, Chapter 90, General Laws, Ter Ed.)

The expenditures during the year in various Counties were:

Barnstable	\$140,377.56	Hampden	198,904.62
Berkshire	190,838.69	Hampshire	135,364.20
Bristol	132,894.97	Middlesex	562,351.88
Dukes	7,715.58	Norfolk	89,960.30
Essex	325,582.64	Plymouth	247,483.63
Franklin	165,007.34	Worcester	511,954.18

Total \$2,708,435.59

Details of the foregoing expenditures follow:

Barnstable County.—Barnstable, \$16,684.15; Bourne, \$1,059.32; Brewster, \$2,129.45; Chatham, \$11,354.74; Falmouth, \$96,636.93; Harwich, \$3,612.15; Orleans, \$1,312.90; Wellfleet, \$4,715.57; Yarmouth, \$2,872.36.

Berkshire County.—Adams, \$6,527.09; Alford, \$1,073.76; Becket, \$6,323.46; Cheshire, \$2,808.53; Clarksburg, \$1,659.46; Dalton, \$15,788.65; Egremont, \$1,765.39; Florida, \$3,571.12; Gt. Barrington, \$9,317.51; Hancock, \$4,059.79; Hinsdale, \$1,711.31; Lanesborough, \$10,048.99; Lee, \$17,982.55; Lenox, \$8,228.96; Monterey, \$5,943.39; Mt. Washington, \$3,201.06; New Ashford, \$2,106.40; New Marlborough, \$5,463.87; No. Adams, \$13,516.67; Otis, \$5,575.72; Peru, \$1,790.32; Pittsfield, \$18,227.05; Richmond, \$2,229.36; Sandisfield, \$4,020.32; Savoy, \$1,914.91; Sheffield, \$5,350.33; Stockbridge, \$2,589.34; Tyringham, \$4,302.26; Washington, \$6,288.76; W. Stockbridge, \$6,412.23; Williamstown, \$9,252.91; Windsor, \$1,787.22.

Bristol County.—Acushnet, \$8,222.53; Attleboro, \$28,766.69; Berkley, \$3,421.92; Dighton, \$4,716.29; Easton, \$4,742.00; Fairhaven, \$989.37;

Fall River, \$26,634.12; Freetown, \$893.62; Mansfield, \$971.62; No. Attleborough, \$5,936.21; Norton, \$638.30; Raynham, \$638.30; Rehoboth, \$8,325.08; Taunton, \$16,186.16; Westport, \$21,812.76.

Dukes County.—Edgartown, \$2,419.59; Tisbury, \$3,700.23; W. Tisbury, \$1,595.76.

Essex County.—Amesbury, \$1,276.27; Andover, \$13,150.28; Beverly, \$8,387.29; Boxford, \$14,744.78; Danvers, \$13,074.35; Essex, \$1,276.60; Georgetown, \$1,276.60; Gloucester, \$7,310.80; Groveland, \$510.64; Hamilton, \$10,637.35; Haverhill, \$54,519.27; Ipswich, \$2,170.23; Lawrence, \$13,038.35; Lynn, \$20,652.15; Lynnfield, \$10,317.52; Manchester, \$6,351.11; Marblehead, \$21,357.64; Merrimac, \$1,914.88; Methuen, \$8,546.49; Middleton, \$43,987.45; Newbury, \$3,180.10; No. Andover, \$6,445.79; Peabody, \$13,609.17; Rockport, \$2,508.53; Rowley, \$3,702.16; Salisbury, \$7,895.65; Saugus, \$8,890.90; Swampscott, \$2,382.12; Topsfield, \$7,865.40; Wenham, \$8,655.07; W. Newbury, \$5,947.00.

Franklin County.—Ashfield, \$4,268.94; Buckland, \$6,893.66; Conway, \$2,680.86; Erving, \$1,787.25; Gill, \$3,444.28; Hawley, \$3,574.49; Heath, \$1,787.25; Leverett, \$1,787.25; Leyden, \$3,574.49; Monroe, \$1,787.25; Montague, \$6,441.67; New Salem, \$96,157.75; Northfield, \$989.37; Orange, \$1,353.20; Rowe, \$5,553.23; Shelburne, \$1,787.25; Sunderland, \$9,343.33; Warwick, \$6,083.02; Wendell, \$5,712.80.

Hampden County.—Agawam, \$15,652.51; Blandford, \$6,023.30; Brimfield, \$5,003.73; Chester, \$10,261.66; Chicopee, \$14,871.59; E. Longmeadow, \$10,117.09; Granville, \$5,968.12; Hampden, \$4,212.80; Holland, \$3,162.12; Longmeadow, \$1,150.97; Ludlow, \$5,339.95; Monson, \$5,402.60; Montgomery, \$6,373.97; Palmer, \$16,731.17; Russell, \$900.31; Southwick, \$5,361.74; Springfield, \$27,631.39; Tolland, \$3,115.31; Wales, \$4,625.29; W. Springfield, \$23,978.73; Westfield, \$15,063.94; Wilbraham, \$7,956.28.

Hampshire County.—Amherst, \$9,109.28; Belchertown, \$14,289.87; Chesterfield, \$23,201.92; Cummington, \$4,228.82; Easthampton, \$4,695.80; Enfield, \$633.09; Goshen, \$3,108.53; Granby, \$3,574.47; Greenwich, \$1,276.60; Hadley, \$2,427.22; Huntington, \$6,861.75; Middlefield, \$15,842.34; Northampton, \$10,927.34; Pelham, \$13,383.73; Plainfield, \$4,037.72; South Hadley, \$6,462.78; Southampton, \$1,276.60; Ware, \$4,468.11; Westhampton, \$638.30; Williamsburg, \$315.41; Worthington, \$4,604.52.

Middlesex County.—Acton, \$5,439.22; Arlington, \$4,205.65; Ashby, \$2,023.39; Ashland, \$3,510.57; Ayer, \$3,702.00; Bedford, \$12,320.36; Belmont, \$5,412.67; Billerica, \$21,383.42; Boxborough, \$1,973.55; Burlington, \$12,981.48; Cambridge, \$43,451.75; Carlisle, \$4,531.95; Chelmsford, \$4,361.97; Concord, \$3,585.13; Dracut, \$8,179.47; Dunstable, \$4,928.18; Framingham, \$21,350.76; Groton, \$15,497.08; Holliston, \$10,997.85; Hopkinton, \$5,067.32; Hudson, \$8,650.93; Lexington, \$8,203.85; Lincoln, \$4,884.95; Littleton, \$8,981.50; Malden, \$37,031.39; Marlborough, \$10,036.67; Maynard, \$7,230.97; Medford, \$16,921.28; Natick, \$19,828.10; Newton, \$28,685.53; No. Reading, \$12,660.70; Pepperell, \$4,326.22; Reading, \$14,038.54; Sherborn, \$4,209.53; Shirley, \$14,819.05; Stoneham, \$8,457.23; Stow, \$3,403.10; Sudbury, \$6,459.15; Tewksbury, \$7,457.44; Townsend, \$6,774.71; Tyngsborough, \$8,136.26; Wakefield, \$18,448.27; Waltham, \$11,870.25; Watertown, \$15,771.06; Wayland, \$11,010.54; Westford, \$8,285.30; Wilmington, \$5,360.86; Winchester, \$12,075.24; Woburn, \$43,411.49.

Norfolk County.—Avon, \$1,404.27; Bellingham, \$4,663.08; Brookline, \$7,291.58; Canton, \$370.22; Dedham, \$3,524.63; Dover, \$765.96; Foxborough, \$3,383.00; Franklin, \$10,327.34; Medway, \$5,234.07; Millis, \$2,042.57; Milton, \$351.07; Norfolk, \$1,914.78; Norwood, \$1,827.41; Plainville, \$553.19; Randolph, \$991.15; Sharon, \$1,148.94; Stoughton, \$201.48; Walpole, \$2,454.04; Wellesley, \$4,468.11; Westwood, \$4,395.73; Weymouth, \$21,222.07; Wrentham, \$11,425.61.

Plymouth County—Abington, \$10,687.92; Bridgewater, \$2,872.36; Brockton, \$11,586.88; Carver, \$3,574.39; Halifax, \$2,074.48; Hanover, \$3,829.82; Hanson, \$4,876.76; Hull, \$107,505.78; Kingston, \$5,276.38; Lakeville, \$1,787.25; Marion, \$3,995.98; Marshfield, \$12,725.49; Mattapoisett, \$6,300.38; Pembroke, \$4,212.79; Plymouth, \$6,383.02; Plympton, \$8,501.70; Rochester, \$4,595.78; Rockland, \$8,018.92; W. Bridgewater, \$3,106.68; Whitman, \$35,561.87.

Worcester County—Ashburnham, \$901.70; Athol, \$9,842.78; Auburn, \$10,143.18; Barre, \$8,940.56; Berlin, \$6,456.40; Blackstone, \$11,564.96; Bolton, \$5,626.52; Boylston, \$3,446.83; Brookfield, \$9,646.72; Charlton, \$5,331.88; Clinton, \$18,162.02; Dana, \$4,307.63; Douglas, \$1,876.20; Dudley, \$9,856.68; E. Brookfield, \$13,617.23; Fitchburg, \$14,530.72; Gardner, \$4,319.93; Grafton, \$6,439.36; Hardwick, \$6,223.19; Harvard, \$10,173.40; Holden, \$3,806.09; Hubbardston, \$4,684.09; Leicester, \$2,713.21; Leominster, \$4,739.58; Lunenburg, \$3,015.17; Mendon, \$7,118.67; Milford, \$28,927.69; Millbury, \$9,564.93; New Braintree, \$2,322.10; No. Brookfield, \$12,948.91; Northborough, \$287.07; Northbridge, \$11,169.28; Oakham, \$2,999.88; Paxton, \$5,043.79; Petersham, \$34,610.87; Phillips-ton, \$580.75; Princeton, \$10,576.41; Royalston, \$5,816.45; Rutland, \$8,379.65; Shrewsbury, \$1,037.88; Southborough, \$3,045.62; Southbridge, \$17,568.71; Spencer, \$12,135.91; Sterling, \$7,687.75; Sturbridge, \$3,948.54; Sutton, \$12,300.52; Templeton, \$9,585.53; Upton, \$3,906.40; Uxbridge, \$14,245.32; Warren, \$471.51; Webster, \$10,485.49; W. Boylston, \$10,834.11; W. Brookfield, \$10,769.21; Westborough, \$765.90; Westminster, \$10,280.68; Winchendon, \$861.71; Worcester, \$61,310.37.

REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS, IN CERTAIN TOWNS

(Sections 26 to 29 and 31 of Chapter 81 of the General Laws, (Ter. Ed.),
as amended with reference to Section 26 by Chapter 366 of the
Acts of 1934)

During the year the Department contracted for work to be done in
the towns named in the following table, which also shows the road mileage
in the towns and the allotments or contributions by the State and towns:—

Counties and Towns	Miles of Road	State	Allotment Town
<i>Barnstable County</i>			
Brewster	40	\$6,000 00	\$5,000 00
Dennis	78	11,700 00	7,800 00
Eastham	42	6,300 00	3,150 00
Mashpee	27	4,050 00	2,025 00
Sandwich	67	10,050 00	6,700 00
Truro	30	4,500 00	3,750 00
Wellfleet	36	5,400 00	4,500 00
<i>Berkshire County</i>			
Alford	19	\$2,850 00	\$760 00
Becket	58	8,700 00	2,320 00
Cheshire	42	6,300 00	3,150 00
Clarksburg	14	2,100 00	2,100 00
Egremont	32	4,800 00	2,400 00
Florida	43	6,450 00	3,225 00
Hancock	30	4,500 00	1,200 00
Hinsdale	35	5,250 00	2,625 00
Lanesborough	43	6,450 00	3,225 00
Monterey	51	7,650 00	2,040 00
Mt. Washington	20	3,000 00	500 00
New Ashford	11	1,650 00	275 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
New Marlborough	85	12,750 00	3,400 00
Otis	41	6,150 00	1,640 00
Peru'	37	5,550 00	555 00
Richmond	32	4,800 00	2,400 00
Sandisfield	79	11,850 00	1,185 00
Savoy	56	8,400 00	840 00
Sheffield	78	11,700 00	3,900 00
Tyringham	25	3,750 00	1,250 00
Washington	51	7,650 00	765 00
West Stockbridge	36	5,400 00	3,600 00
Windsor	65	9,750 00	975 00
<i>Bristol County</i>			
Berkley	42	\$6,300 00	\$2,100 00
Freetown	47	7,050 00	3,525 00
Norton	57	8,550 00	5,700 00
Raynham	45	6,750 00	4,500 00
Rehoboth	109	16,350 00	8,175 00
Swansea	61	9,105 00	9,150 00
<i>Dukes County</i>			
Chilmark	14	\$2,100 00	\$1,750 00
West Tisbury	13	1,950 00	1,950 00
<i>Essex County</i>			
Boxford	53	\$7,950 00	3,975 00
Georgetown	35	5,250 00	4,375 00
Groveland	30	4,500 00	4,500 00
Merrimac	31	4,650 00	3,875 00
Middleton	30	4,500 00	4,500 00
Newbury	38	5,700 00	4,750 00
Rowley	31	4,650 00	3,875 00
West Newbury	37	5,550 00	3,700 00
<i>Franklin County</i>			
Ashfield	80	\$12,000 00	\$3,200 00
Bernardston	40	6,000 00	3,000 00
Buckland	45	6,750 00	6,750 00
Charlemont	49	7,350 00	3,675 00
Colrain	85	12,750 00	4,250 00
Conway	72	10,800 00	2,880 00
Deerfield	75	11,250 00	9,375 00
Gill	34	5,100 00	2,550 00
Hawley	49	7,350 00	735 00
Heath	53	7,950 00	795 00
Leverett	38	5,700 00	1,520 00
Leyden	39	5,850 00	585 00
Monroe	18	2,700 00	2,700 00
New Salem	65	9,750 00	975 00
Northfield	66	9,900 00	4,950 00
Rowe	40	6,000 00	1,600 00
Shelburne	49	7,350 00	6,125 00
Shutesbury	38	5,700 00	950 00
Sunderland	34	5,100 00	2,550 00
Warwick	56	8,400 00	840 00
Wendell	48	7,200 00	2,400 00
Whately	40	6,000 00	3,000 00

Counties and Towns	Miles of Road	State Allotment	Town
<i>Hampden County</i>			
Blandford	75	\$11,250 00	\$1,875 00
Brimfield	60	9,000 00	2,400 00
Chester	68	10,200 00	3,400 00
Granville	73	10,950 00	5,475 00
Hampden	34	5,100 00	2,550 00
Holland	32	4,800 00	480 00
Monson	101	15,150 00	10,100 00
Montgomery	27	4,050 00	675 00
Southwick	50	7,500 00	5,000 00
Tolland	40	6,000 00	600 00
Wales	25	3,750 00	1,000 00
Wilbraham	44	6,600 00	6,600 00
<i>Hampshire County</i>			
Belchertown	109	\$16,350 00	\$4,360 00
Chesterfield	59	8,850 00	1,475 00
Cummington	49	7,350 00	1,225 00
Enfield	35	5,250 00	1,400 00
Goshen	29	4,350 00	725 00
Granby	48	7,200 00	2,400 00
Greenwich	39	5,850 00	1,560 00
Hadley	58	8,700 00	7,250 00
Hatfield	46	6,900 00	5,750 00
Huntington	41	6,150 00	3,075 00
Middlefield	41	6,150 00	615 00
Pelham	31	4,650 00	2,325 00
Plainfield	49	7,350 00	735 00
Prescott	39	5,850 00	585 00
Southampton	56	8,400 00	2,240 00
Westhampton	50	7,500 00	750 00
Williamsburg	44	6,600 00	3,300 00
Worthington	68	10,200 00	1,700 00
<i>Middlesex County</i>			
Acton	59	\$8,850 00	8,850 00
Ashby	56	8,400 00	2,800 00
Ashland	38	5,700 00	5,700 00
Bedford	36	5,400 00	5,400 00
Boxborough	23	3,450 00	920 00
Burlington	38	5,700 00	5,700 00
Carlisle	42	6,300 00	3,150 00
Dracut	63	9,450 00	9,450 00
Dunstable	37	5,550 00	925 00
Holliston	50	7,500 00	7,500 00
Hopkinton	66	9,900 00	6,600 00
Littleton	42	6,300 00	6,300 00
North Reading	35	5,250 00	5,250 00
Pepperell	69	10,350 00	6,900 00
Sherborn	43	6,450 00	5,375 00
Shirley	46	6,900 00	4,600 00
Stow	43	6,450 00	3,225 00
Sudbury	64	9,600 00	6,400 00
Tewksbury	60	9,000 00	9,000 00
Townsend	70	10,500 00	7,000 00
Tyngsborough	41	6,150 00	4,100 00
Westford	85	12,750 00	10,625 00

Counties and Towns	Miles of Road	State Allotment	Town
<i>Norfolk County</i>			
Bellingham	44	\$6,600 00	\$6,600 00
Medfield	41	6,150 00	6,150 00
Medway	45	6,750 00	6,750 00
Millis	42	6,300 00	6,300 00
Norfolk	42	6,300 00	4,200 00
Plainville	32	4,800 00	4,000 00
<i>Plymouth County</i>			
Carver	67	\$10,050 00	\$6,700 00
Halifax	34	5,100 00	3,400 00
Hanson	36	5,400 00	5,400 00
Lakeville	43	6,450 00	3,225 00
Norwell	47	7,050 00	4,700 00
Pembroke	49	7,350 00	6,125 00
Plympton	30	4,500 00	2,250 00
Rochester	50	7,500 00	3,750 00
<i>Worcester County</i>			
Ashburnham	75	\$11,250 00	\$5,625 00
Barre	110	16,500 00	8,250 00
Berlin	39	5,850 00	2,925 00
Bolton	53	7,950 00	2,650 00
Boylston	40	6,000 00	3,000 00
Brookfield	37	5,550 00	3,700 00
Charlton	110	16,500 00	4,400 00
Dana	43	6,450 00	1,075 00
Douglas	70	10,500 00	5,250 00
Dudley	63	9,450 00	7,875 00
East Brookfield	19	2,850 00	2,375 00
Grafton	63	10,200 00	10,200 00
Hardwick	96	14,400 00	4,800 00
Harvard	56	8,400 00	5,600 00
Holden	77	11,550 00	7,700 00
Hubbardston	75	11,250 00	1,875 00
Lancaster	58	8,700 00	7,250 00
Leicester	66	9,900 00	8,250 00
Lunenburg	66	9,900 00	4,950 00
Mendon	36	5,400 00	3,600 00
Millville	16	2,400 00	2,400 00
New Braintree	49	7,350 00	1,225 00
North Brookfield	69	10,350 00	6,900 00
Northborough	47	7,050 00	5,875 00
Oakham	45	6,750 00	1,125 00
Oxford	66	9,900 00	8,250 00
Paxton	29	4,350 00	2,175 00
Petersham	70	10,500 00	3,500 00
Phillipston	41	6,150 00	1,025 00
Princeton	73	10,950 00	2,920 00
Royalston	67	10,050 00	1,675 00
Rutland	68	10,200 00	3,400 00
Southborough	46	6,900 00	6,900 00
Spencer	101	15,150 00	12,625 00
Sterling	73	10,950 00	5,475 00
Sturbridge	70	10,500 00	3,500 00
Sutton	84	12,600 00	4,200 00
Templeton	63	9,450 00	7,875 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
Upton	60	9,000 00	4,500 00
Warren	71	10,650 00	7,100 00
West Boylston	37	5,550 00	5,550 00
West Brookfield	53	7,950 00	3,975 00
Westborough	62	9,300 00	9,300 00
Westminster	78	11,700 00	3,900 00

EXPENDITURES FOR REPAIR AND IMPROVEMENT OF PUBLIC WAYS

The expenditures during the year in various counties were:—

Barnstable	\$51,722.70	Hampden	\$100,179.29
Berkshire	158,362.43	Hampshire	142,551.89
Bristol	32,582.06	Middlesex	165,347.77
Dukes	4,380.20	Norfolk	23,486.58
Essex	40,639.86	Plymouth	60,722.24
Franklin	179,189.74	Worcester	428,284.91
Total			\$1,387,449.67

Details of the foregoing expenditures follow:—

Barnstable County.—Brewster, \$6,651.01; Dennis, \$12,268.86; Eastham, \$6,681.15; Mashpee, \$4,427.55; Sandwich, \$11,397.12; Truro, \$4,840.58; Wellfleet, \$5,456.43.

Berkshire County.—Alford, \$3,221.77; Becket, \$9,446.40; Cheshire, \$7,260.37; Clarksburg, \$1,857.59; Egremont, \$5,324.58; Florida, \$6,065.72; Hancock, \$5,279.53; Hinsdale, \$4,179.30; Lanesborough, \$7,406.01; Monterey, \$9,344.27; Mt. Washington, \$3,456.59; New Ashford, \$1,896.42; New Marlborough, \$12,625.62; Otis, \$7,337.15; Peru, \$5,635.02; Richmond, \$5,258.49; Sandisfield, \$11,362.47; Savoy, \$9,085.41; Sheffield, \$12,407.75; Tyringham, \$3,629.00; Washington, \$9,643.32; West Stockbridge, \$5,818.02; Windsor, \$10,821.63.

Bristol County.—Berkley, \$2,528.03; Freetown, \$5,048.16; Norton, \$9,201.64; Raynham, \$3,238.33; Rehoboth, \$9,373.84; Swansea, \$3,192.06.

Dukes County.—Chilmark, \$2,227.77; West Tisbury, \$2,152.43.

Essex County.—Boxford, \$8,167.87; Georgetown, \$4,609.09; Groveland, \$3,306.79; Merrimac, \$2,889.97; Middleton, \$4,765.19; Newbury, \$6,775.08; Rowley, \$4,318.25; West Newbury, \$5,807.62.

Franklin County.—Ashfield, \$12,995.30; Bernardston, \$6,376.58; Buckland, \$7,425.87; Charlemont, \$7,937.09; Colrain, \$13,694.84; Conway, \$11,246.45; Deerfield, \$11,246.45; Gill, \$5,569.42; Hawley, \$7,883.28; Heath, \$7,721.85; Leverett, \$6,376.58; Leyden, \$6,295.86; Monroe, \$2,556.01; New Salem, \$10,842.87; Northfield, \$10,250.87; Rowe, \$6,457.29; Shelburne, \$7,937.09; Shutesbury, \$6,161.29; Sunderland, \$6,457.29; Warwick, \$9,659.04; Wendell, \$7,641.13; Whately, \$6,457.29.

Hampden County.—Blandford, \$12,543.94; Brimfield, \$9,830.83; Chester, \$11,917.74; Granville, \$11,327.17; Hampden, \$5,381.08; Holland, \$5,103.25; Monson, \$15,794.91; Montgomery, \$4,697.68; Southwick, \$7,775.66; Tolland, \$5,135.06; Wales, \$3,999.43; Wilbraham, \$6,672.54.

Hampshire County.—Belchertown, \$17,488.50; Chesterfield, \$9,524.51; Cummington, \$7,425.89; Enfield, \$5,165.83; Goshen, \$4,547.01; Granby, \$7,694.94; Greenwich, \$5,677.04; Hadley, \$9,040.21; Hatfield, \$6,134.43; Huntington, \$7,175.44; Middlefield, \$7,410.55; Pelham, \$5,084.93; Plainfield, \$8,286.86; Prescott, \$6,349.67; Southampton, \$9,282.36; Westhampton, \$7,452.79; Williamsburg, \$7,049.21; Worthington, \$11,761.72.

Middlesex County.—Acton, \$8,986.40; Ashby, \$7,318.27; Ashland, \$5,219.65; Bedford, \$5,434.89; Boxborough, \$3,371.63; Burlington, \$5,757.75; Carlisle, \$6,663.95; Dracut, \$9,963.60; Dunstable, \$5,906.58; Holliston, \$7,587.32; Hopkinton, \$10,541.53; Littleton, \$6,320.56; No. Reading,

\$5,058.21; Pepperell, \$9,255.45; Sherborn, \$5,919.19; Shirley, \$7,183.35; Stow, \$5,703.95; Sudbury, \$10,070.15; Tewksbury, \$8,986.40; Townsend, \$10,008.81; Tyngsborough, \$6,581.27; Westford, \$13,503.86.

Norfolk County—Bellingham, \$4,390.96; Medfield, \$3,872.76; Medway, \$4,448.00; Millis, \$2,811.08; Norfolk, \$4,092.63; Plainville, \$3,871.15.

Plymouth County—Carver, \$12,511.76; Halifax, \$5,338.00; Hanson, \$5,811.92; Lakeville, \$6,668.77; Norwell, \$8,569.60; Pembroke, \$9,206.41; Plympton, \$4,622.51; Rochester, \$7,993.27.

Worcester County—Ashburnham, \$12,225.83; Barre, \$14,850.15; Berlin, \$5,652.72; Bolton, \$8,555.91; Boylston, \$6,497.52; Brookfield, \$5,828.26; Charlton, \$20,165.22; Dana, \$6,941.59; Douglas, \$11,074.26; Dudley, \$10,170.24; E. Brookfield, \$3,010.15; Grafton, \$7,869.36; Harvard, \$9,040.21; Hardwick, \$15,554.05; Holden, \$12,029.92; Hubbardston, \$10,876.37; Lancaster, \$8,406.48; Leicester, \$9,821.54; Lunenburg, \$11,087.40; Mendon, \$5,932.42; New Braintree, \$7,831.55; No. Brookfield, \$10,784.10; Northborough, \$8,201.56; Oakham, \$7,264.46; Oxford, \$10,338.41; Paxton, \$4,769.93; Petersham, \$9,890.62; Phillipston, \$6,425.66; Princeton, \$12,214.79; Royalston, \$10,715.87; Rutland, \$9,694.29; Southborough, \$7,645.53; Spencer, \$14,876.32; Sterling, \$10,954.38; Sturbridge, \$11,872.09; Sutton, \$13,642.92; Templeton, \$11,825.47; Upton, \$9,715.04; Warren, \$11,286.15; West Boylston, \$6,712.87; W. Brookfield, \$9,481.87; Westborough, \$10,008.80; Westminster, \$13,925.41; Millville, \$2,617.22.

THE REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW

(Sections 29-33, Chapter 93, General Laws as amended)

In accordance with the provisions of sections 29 to 33 inclusive, Chapter 93, General Laws (Ter. Ed.), providing for the control of billboards and other advertising devices on public ways or in private property within public view of any highway, public park or reservation, the Department adopted on January 24, 1924, certain new rules and regulations, superseding all former issues; and these have continued in force during the present year.

Applications, Licenses and Permits—Licenses were granted to 21 individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 1,008 applications received for permits for the erection of advertising signs, 400 permits were granted for the year, while 2,600 applications, mostly injunction ones, are being held for definite action by this Department. In addition, over 230 individual advertisers were granted permits mainly consisting of a sole application. The greater part of these individual applications were obtained at the information desk maintained in the office of this Division for the purposes of educating and explaining the various provisions of the Law.

Of 3,634 renewal applications sent to those whose permits were to expire June 30, 1938, 3,351 were returned to the Department requesting renewal; and on account of the advertisers failing to renew, 283 permits were cancelled. The total number of permits in force November 30, 1937 was 3,751.

Receipts and Expenditures—The total receipts for the year ending November 30, 1937 were \$11,756.60 and the expenditures were \$27,252.06.

The Removal of Signs—The "Sign Patrol" consisting of small trucks completely equipped for the work, have removed 75,000 signs during the year in addition to 8,000 removed by other agents of the Department, under authority of Section 30A, Chapter 93, General Laws (Ter. Ed.), from within the highways and from private property.

Hearings—Hearing were given to officials of Barnstable County, Melrose, Somerville, and Mrs. Eleanor Barry of Cambridge.

REGISTRY OF MOTOR VEHICLES

The 1937 statistics show a small increase in the various classes of applications handled, as compared with the figures for 1936. As was the case in 1936, the reissues, each representing usually the registration of a new car in place of one previously registered, account for nearly 50% of the total increase in registrations.

Highway safety was accorded the usual important place in the activities of the Registrar, and, together with the motor vehicle inspectors, the police, both state and local, and the continued cooperation of the safety committees, the campaign for safer driving was vigorously enforced. The value of this work and other efforts having to do with highway safety was borne out by the fact that Massachusetts, as a state, was given the grand award in the 1937 National Traffic Safety Contest as being the safest state in the Union, so far as motor vehicle traffic was concerned. This activity is an annual contest sponsored by the National Safety Council.

Aside from enforcement work, equally important in contributing to the enviable safety record, is the policy of the Department of Public Works, in which the Registry serves, in the matter of highway construction. The policy of the department, under the present Commissioner, has been not only to build roads of the proper material, but to provide for sidewalks and curbs and roads with definite reservations in the center, separating the lines of traffic; the use of non-skid surfaces, installation of drainage facilities to quickly clear the highway of water, construction of grade separations at intersections and particularly highway and railroad intersections, the elimination of sharp corners, construction of hardened shoulders, installation of warning and traffic signals, painting of white lines, efficient snow removal, sanding icy surfaces during the winter months, and many other details which help the motorist trying to operate safely and without accidents.

The system of requiring persons 65 years of age or over to pass a test showing their ability to drive an automobile before their licenses were renewed, which was started on September 21, 1936, was abandoned on May 7, 1937, in anticipation of a law passed by the Legislature which barred this type of examination as being discriminatory. During the time this plan was in operation approximately 11,000 persons passed the test, 200 failed to pass the test, and 5,700 persons did not attempt to renew their licenses, presumably because of the required test.

The clerical work of the Registry was especially heavy in 1937 because again this year, for the second time, it became necessary to prepare new renewal license cards for about 30% of the operators renewing their licenses, due to the system in which these records are kept on a semi-permanent 12-year basis. A card in the license file for each operator provides for the posting to the renewal license record any suspensions of his license, changes of address, etc., over a 12-year period, at the end of which time a transcript of this record is transferred to a new card.

A few of the outstanding figures for the year as compared with those of the previous year are as follows:

	1936	1937
Motor vehicle certificates of registration issued	1,034,803	1,085,869
Compulsory insurance cancellation notices received	69,126	67,811
Licenses to operate issued	1,128,516	1,177,924
Examinations of applicants for licenses	98,997	109,729
Licenses and registrations revoked and suspended	52,705	58,358
Licenses revoked for driving under influence of liquor	6,486	6,829

Approximate total number of applications handled	2,253,405	2,354,600
Gross receipts from fees	\$6,765,751.86	\$6,945,602.30

REGISTRATIONS OF PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES

The following registration figures show a 5.45% increase in passenger registrations and a 1.06% increase in commercial registrations over the previous year, while the motor cycle registrations showed a decrease of 10.6% for the same period.

	1904	1914	1924	1934	1936	1937
Passenger cars	3,772	77,246	580,489	831,853	915,010	964,956
Commercial vehicles	—	—	91,826	112,260	118,477	119,737
Motor cycles	489	8,161	10,778	1,375	1,316	1,176
Totals	4,261	85,407	683,093	945,488	1,034,803	1,085,869

EXAMINATIONS FOR LICENSES

The appointment system of examining new operators was continued during the year 1937. The following figures show that there was a general increase in the number of persons examined, comparable with the increase in registrations, at the 55 examining points in the State.

	1936	1937
Operators passed	86,334	96,760
Operators unfit	7,621	6,583
Restriction removal, passed	848	541
Restriction removal, unfit	119	44
"Competency", passed	544	422
"Competency", unfit	39	26
"Competency", (age 65) passed	4,731	6,288
"Competency", (age 65) unfit	106	91
Total examinations	100,342	110,755

BRANCH OFFICES

No new branch offices of the Registry were established, nor was the teletype machine installation extended to any of the branches not formerly so equipped.

The following figures give an approximate idea of the distribution of the volume of applications presented by the public.

APPROXIMATE DISTRIBUTION OF REGISTRATIONS, LICENSES, ETC.

	Registrations	First Licenses	License Renewals	Miscellaneous	Totals
Boston:					
Counter	194,000	—	174,000	95,000	463,000
Mail	168,000	—	401,000	11,700	580,700
Examination	—	22,000	—	1,500	23,500
Pittsfield	25,000	3,900	22,000	9,600	60,500
Springfield	51,000	7,800	57,400	23,500	139,700
Greenfield	12,500	1,900	11,600	5,400	31,400
Northampton	10,400	1,300	10,800	3,800	26,300
Worcester	56,000	8,200	56,100	26,000	146,300
Fitchburg	22,000	3,400	19,500	9,100	54,000
Framingham	22,600	3,600	18,500	9,500	54,200
Lawrence	22,000	3,800	27,400	7,500	60,700
Lowell	22,000	4,000	24,400	7,800	58,200
Fall River	24,600	5,700	25,100	9,700	65,100

P.D. 54					87
New Bedford	23,600	3,700	29,100	9,600	66,000
Lynn	45,500	7,500	48,600	19,500	121,100
Quincy	34,500	7,700	40,200	14,900	97,300
Brockton	40,000	4,100	35,700	17,800	97,600
Hyannis*	13,000	2,200	8,300	4,800	28,300
Haverhill	13,800	2,300	14,400	5,500	36,000
Holyoke	11,500	1,600	11,100	4,600	28,800
Malden	26,000	3,600	20,300	9,400	59,300
Waltham	23,500	5,100	19,500	8,500	56,600
	861,500 ²	103,400	1,075,000	314,700 ¹	2,354,600

* Includes Oak Bluffs and Nantucket.

¹ This figure includes approximately 222,000 number plate reissues.

² Does not include reissues (see Miscellaneous).

COMPULSORY MOTOR VEHICLE LIABILITY INSURANCE

The following figures show the volume of papers received and notices mailed in connection with the carrying out of the law regarding compulsory motor vehicle liability insurance.

	1936	1937
Causes for Cancellation of Policies:		
For non-payment of premiums	55,978	52,466
For other reasons	13,148	15,345
Total	69,126	67,811
Origin of requests for Cancellation of Policies:		
Insurance companies	46,660	45,779
Finance companies	22,466	22,032
Total	69,126	67,811
Disposition of applications for cancellation:		
Replacement certificates, adjusting cancellations	5,803	6,500
Reinstatements, adjusting cancellations	38,834	37,464
Sets of plates returned before effective date of cancellation	4,495	4,148
Revocations	19,994	19,699
Total	69,126	67,811
Return of Plates:		
Returned promptly after revocation	11,164	11,184
By Police	4,950	4,940
Not returned	3,880	3,575
Total revocations	19,994	19,699

PROPERTY DAMAGE

Under the provisions of Section 22A of Chapter 90, General Laws, the Registrar may, upon receipt of evidence satisfactory to him, suspend the license of any operator who has failed to satisfy a judgment rendered against him after sixty days in any case in which such operator is the defendant in an action brought to recover damages for injuries to property arising out of the use, operation or maintenance on the ways of the Commonwealth of a motor vehicle or trailer.

The following figures indicate the number of cases in which successful plaintiffs availed themselves of the additional facilities provided in the law for recovering damages and the action taken thereon:

	1936	1937
Complaints received	600	582
Releases received, no action being necessary	158	158
Licenses or right to operate suspended	442	424
Licenses or right to operate reinstated after suspension	255	235

AIRCRAFT

The following figures summarize the work of the Aviation Section for the fiscal year of 1937. In comparing them with the previous year, it will be noted that there is a considerable increase in the pilots and aircraft registered in the Commonwealth.

A definite decrease has been accomplished in the airplane accidents, which is very encouraging. This is contributed to very strict enforcement of the existing aviation statute.

Very favorable comments have been made on the airmarkers throughout the State and there is no doubt that they will be a great factor in preventing accidents.

Close co-operation has been maintained with the Federal Government and the aeronautical authorities of other states.

The following figures summarize the work of the Aviation Section:

	1936	1937
Pilots registered	938	1,260
Aircraft registered	216	304
Duplicates issued	4	9
Suspensions of pilots' and aircraft rights	21	167
Aircraft grounded	66	66
Reinstatements of rights and groundings	40	44
Regulations promulgated	2	1
Surveys of fields	22	50
Plans of buildings drawn for airmarking	178	178
Airmarkers completed under State promotion	176	61
Reports made by aircraft inspectors	2,086	2,550
Airplane accidents	46	29
	1936	1937
Fatal accidents	3	3
Personal injury accidents	9	5
No injury accidents	34	21
Persons killed in airplane accidents	4	3
Persons injured in airplane accidents	17	6
Ground accidents		7
Personal injury accidents	1	0
No injury accidents	5	12
Unknown accidents	1	0
Persons injured in ground accidents	1	0

37 airport plans have been furnished Federal Relief Agencies;

22 airport plans have been furnished the Department of Commerce;

5 special surveys have been made for the W.P.A.

PERIODIC INSPECTION OF MOTOR VEHICLE EQUIPMENT

In accordance with the provisions of General Laws, Chapter 90, Section 7A, the safety equipment of all motor vehicles registered in Massachusetts was inspected twice during the year, in the months of May and September. These were the tenth and eleventh inspections conducted under the periodic inspection law and the third year of semi-annual inspections. Semi-annual inspections have been found far more effective in securing safe vehicles on the highway than the single annual inspection.

As formerly, inspections were conducted at Official Inspection Stations designated by the Registrar. There was a noticeable improvement in the efficiency and honesty in which the work was done as evidenced by the very few complaints received from motorists, and the small number of stations which it was found necessary to cancel or suspend.

Approximately 850,000 pleasure cars, trucks, trailers and buses were inspected during each period. The results in per cent may be summarized as follows:

		May Per Cent	September Per Cent
O. K.		44	17*
Foot Brake	Defective	14	16
Emergency Brake	"	10	10
Lights	"	42	79
Horn	"	2	1.4
Muffler	"	1	1.2
Steering Gear	"	2	2.3
Windshield Cleaner	"	2	2
Number Plates	"	.4	.6

* Method of headlight adjustment changed, accounting for relatively small percentage of cars O. K., and large percentage with "defective" lights.

SCHOOL BUS INSPECTIONS

Chapter 271 of the Acts of 1932 require the inspection of all school buses operated in Massachusetts under contract with cities or towns, or owned by cities or towns. These inspections were conducted under the supervision of the Equipment Section five times during the year, during the first weeks of January, March, May, September and November. In each month, about 937 vehicles were submitted for inspection at Official Inspection Stations throughout the state. It is worthy of note that since the School Bus Act first became effective in September, 1932, not one serious school bus accident has occurred. This is undoubtedly due in large measure to the application of the provisions of the Act, which removed from the highway many antiquated, poorly conditioned buses and other vehicles which had previously been used for the transportation of school children.

BRAKES, LIGHTS AND MISCELLANEOUS

Approximately 50 men were regularly assigned to law enforcement on the road. Their efforts were directed principally to apprehending speeders, and testing brakes and other equipment. The activities of these inspectors, in conjunction with the two regular equipment inspections during the year, were undoubtedly reflected in the improvement of the accident situation throughout the state, which showed a decrease of 4% in fatalities despite a 5% increase in registration and a 7% increase in vehicle-miles operated. A summary of the work of these equipment and enforcement inspectors is as follows:

Reports of defective equipment	10,308
Reports of vehicles not inspected	6,626
Reports of improper operation	3,144
Light tags issued	57,689
Brake tags issued	22,706

Three thousand, eight hundred and fifty-six registrations were suspended because of defective equipment as follows:

Defective brakes	2,382
Defective lights	671
Miscellaneous defective equipment	803

In addition to handling the office work in connection with the above activities, the Equipment Office force handled 48,306 light tags issued by State and local police departments, and sent out notices to report, or warning notices, in 4,839 other cases of defective equipment, of which 1,094 were for defective windshields; 848 reports from inspectors for reference to the Registrar's Office; and 9,802 special reports of brake tests were made by inspectors and handled through the Equipment Office.

Headlamps, Tail Lamps and Reflex Reflectors

During the year, no new headlamps were approved, but approval was granted to 15 tail lamps and 5 reflex reflectors.

Directional Signals

The Massachusetts Supreme Judicial Court in a decision rendered on October 15, 1937 held that rules and regulations of the Department of Public Works, made under date of April 13, 1936, and purporting to require electrical or mechanical directional signal devices on certain commercial vehicles operated over state highways, were beyond the authority of the Department granted by statute and that the regulations were, therefore, void and unenforceable.

MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS

Deaths in connection with the operation of motor vehicles in the year 1937 numbered 784 as compared with 817 in the year before, or 33 less, a 4.0% reduction. A comparative table of classified fatalities, injuries and collisions in the years 1936 and 1937 follows:

Motor Vehicle Accidents to Persons

	Persons Killed (including children)		Persons Injured (including children)	
	1936	1937	1936	1937
Pedestrians by autos	462	436	12,165	12,299
Pedestrians by motorcycles	0	0	31	16
Pedestrians near street cars	1	1	11	16
Occupants of autos	302	302	31,196	35,751
Occupants of autos at R. R. crossings	13	7	19	18
Occupants of motorcycles	6	8	180	157
Bicycle Riders	24	21	1,098	1,311
Occupants horse-drawn vehicles	0	4	104	95
Coasters on sleds	7	1	540	27
Coasters on wheels	2	4	118	164
Totals	817	784	45,462	49,854
	Children Killed		Children Injured	
	1936	1937	1936	1937
Boys	94	87	5,585	5,388
Girls	33	28	3,090	3,206
Totals	127	115	8,675	8,594

Types of Collisions

	1936	1937
Collision with pedestrian	13,511	14,019
Collision with automobile	20,215	22,986
Collision with horse-drawn vehicle	153	131
Collision with railroad train	27	23
Collision with street car	279	275
Collision with fixed object	1,860	2,140
Collision with bicycle	1,350	1,628
Non-Collision (overturn)	650	714
Collision with motorcycle	199	195
Collision with sled	553	26
Collision with animal	76	87
Coaster on wheels	137	183
Totals	39,010	42,407

P.D. 54		91
In the daytime	23,533	23,876
After dark	15,477	18,531
Totals	39,010	42,407

ACCIDENT REPORT LETTERS

As provided in Section 26, Chapter 90, General Laws, every operator of a motor vehicle in any manner involved in an accident in which any person is killed or injured is required to report in writing to the Registrar. The number of these formal accident reports received from operators in 1937 was 44,839 as compared with 41,605 received in 1936. Under the requirements of Section 29, Chapter 90, General Laws, 17,847 similar reports of accidents were received from police departments throughout the State in 1937 as against 17,498 received in 1936. In addition, in connection with this reporting of accidents by operators during the year 1937, there were received 8,730 letters and complaints reporting faulty operating as compared with 9,189 such letters in 1936.

COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, LICENSES, DEATHS, INJURIES, REVOCATIONS AND SUSPENSIONS

Year	Automobiles Registered	Motor Cycles Registered	Total Registrations	Number of Persons Killed	Number of Persons Injured	Licenses issued	Total suspensions and Revocations	For operating Under Influence of Liquor
1910	31,360	3,358	34,718	77	963	41,259	283	22
1911	38,907	3,658	42,565	110	1,248	51,950	360	14
1912	50,132	5,034	55,166	142	1,962	66,645	546	56
1913	62,660	7,127	69,787	188	2,923	81,034	608	87
1914	77,246	8,161	85,407	229	4,010	99,532	558	131
1915	102,633	9,520	112,153	294	6,197	133,935	1,153	202
1916	136,809	10,713	147,522	315	9,131	171,596	1,396	320
1917	174,274	11,065	185,339	438	7,282	214,229	1,831	435
1918	193,497	12,862	206,359	499	8,593	235,140	2,343	553
1919	247,183	13,698	260,881	582	16,287	297,968	2,156	554
1920	304,538	15,142	319,680	481	21,182	261,539	2,944	888
1921	360,731	12,058	372,790	544	11,487	380,519	4,899	1,508
1922	449,838	11,675	461,513	522	15,277	444,173	8,369	2,460
1923	566,150	11,733	577,883	578	16,217	536,819	11,613	3,333
1924	672,315	10,778	683,093	709	19,579	620,439	14,154	4,395
1925	764,338	10,333	774,671	755	25,736	698,378	16,249	4,654
1926	826,224	9,215	835,439	705	25,351	763,951	18,705	4,863
1927	819,703	7,245	826,948	693	31,721	814,094	31,252	4,983
1928	883,595	6,556	890,251	715	42,201	870,160	40,814	5,071
1929	1,018,904	6,168	1,025,072	777	46,111	944,338	53,133	5,381
1930	1,008,476	4,642	1,013,118	795	44,279	982,795	52,954	5,052
1931	1,006,808	3,068	1,009,876	793	48,337	1,024,304	63,841	5,535
1932	921,909	1,661	923,570	768	47,658	1,014,635	73,511	4,824
1933	930,493	1,023	931,516	769	48,249	1,022,662	56,691	4,274
1934	944,113	1,375	945,488	921	53,055	1,053,527	52,505	5,717
1935	967,178	1,375	968,553	795	48,421	1,077,880	52,317	6,264
1936	1,033,487	1,316	1,034,803	817	45,462	1,128,516	52,705	6,486
1937	1,084,693	1,176	1,085,869	784	49,854	1,177,924	58,358	6,829

INVESTIGATIONS AND PROSECUTIONS BY INSPECTORS

Investigations were made under the direction of the Chief Inspector relative to fatal and nonfatal accidents, violations of the laws concerning brakes and headlights, inspection of garages, miscellaneous complaints, and the prosecution of motorists in court. The table below shows the wide range of these activities of the inspectors.

Classification of Reports

	1936	1937
Accidents, fatal	782	790
Accidental, nonfatal	1,525	1,284
General reputation	1,598	1,612
Miscellaneous	6,389	6,885
Total	10,294	10,571

92		P.D. 54
Complaints filed	28,649	36,798
Garages inspected	8,274	13,280
Headlights, brakes, etc.	93,290	93,101
Prosecutions	778	921
Amount of fines	\$25,687	31,001

Revocations and Suspensions

	1936	1937
Licenses suspended	15,314	20,756
Licenses revoked	3,707	5,433
Rights suspended	5,788	6,718
Certificates suspended	5,660	4,645
Certificates revoked	20,126	19,806
Certificates and licenses suspended	42	32
Certificates and licenses revoked	1,369	330
Certificates revoked and right suspended	97	30
Rights in Massachusetts suspended	602	608

Totals	52,705	58,358
Resulting from investigations	14,498	14,092
Resulting from court convictions	12,852	14,855
Resulting from police complaints	3,033	3,539
Resulting from judges' complaints	3	4
Resulting from state police complaints	2,333	6,169
Resulting from insurance cancellations	19,986	19,699
Totals	52,705	58,358

Character of Offenses

	1936	1937
Reckless and endangering life	1,590	1,935
Liquor convictions	4,648	5,004
Going away after accidents	500	581
Without authority	545	554
Racing	6	0
Improper person	5,181	5,137
Improper person, liquor	1,838	1,825
Improper operating	4,028	3,621
Two overspeeds	531	98
Three overspeeds	13	3
Insurance cancellations	19,986	19,699
Insurance convictions	380	411
Improper equipment, miscellaneous	594	803
Improper equipment, lights	603	671
Improper equipment, brakes	3,662	2,382
Failure to display stickers	0	0
Fatal accidents	781	752
Property damage cases	442	399
Other offenses	95	96
Parking violations	3,717	5,455
Overloading trucks	0	0
Sixty milers	959	—
Fifty milers	2,413	8,519
Forty-five milers	—	291
Several minor complaints	186	119
Failure to slow for pedestrian	7	3
Totals	52,705	58,358

P.D. 54		93
Court recommendations adopted:—		
Reckless and endangering	45	41
Going away after accidents	3	6
Operating under influence of liquor	1	0
Allowing improper person to operate	0	0
Insurance convictions	1	1
Totals	50	48

Persons whose licenses were suspended or revoked and who had to pass examination in order to have them returned	5,086	5,124
Registrations revoked on liquor convictions	—*	1,476

* No figures available. Until September 24, 1936, both license and registration were revoked together on liquor convictions, and figures were not recorded separately. Acts of 1936, Chapter 434, effective on this date, required that hearing be given before registration could be revoked.

ANALYSIS OF COURT ABSTRACTS RECEIVED

	1936	1937
Number of courts forwarding abstracts	95	95
Total abstracts received	54,311	50,355
Abstracts recording convictions	35,575	36,967

Offenses

(Analysis of convictions, not including appeals)

	1936	1937
Overspeeding	11,470	11,896
Reckless driving	8	13
Operating under influence of liquor	4,314	4,533
Using auto without authority	753	828
Endangering lives	2,381	2,762
Not stopping after causing injury	842	969
Without license	2,555	2,644
Without registration certificate	475	543
Unregistered vehicle	481	496
Improper display or no register number	123	127
Refusing to stop on signal	259	410
Unlighted lamps*	287	0
Not signalling	0	0
Dazzling lights*	0	0
Operating within 8 feet of street car	59	71
Violation of Metropolitan Park rules	112	77
Operating after suspension or revocation of license	596	619
Larceny	108	160
Manslaughter	0	8
Miscellaneous	1,347	1,279
Lenses not approved	4	0
No reflector*	0	0
Racing	6	0
Operating after registration certificate revoked	7	17
No rear light*	41	0
Not displaying lights*	88	0
Passing Red Light	510	597
Improper lights	91	267
Brakes not as required by law	198	164
Violation of insurance law	484	578

* Figures relative to Unlighted lamps, Dazzling lights, No reflector, No rear light, and Not displaying lights for the year 1937 are here all included under "Improper Lights".

94		P.D. 54
Not slowing down approaching pedestrian	39	58
Not slowing down at intersecting way	6,593	6,508
Violation of law of road	1,198	1,158
Perjury—Making false statements on license application, falsely impersonating or conspiring to obtain a license	12	30
Loaning license to another	11	7
Allowing intoxicated person to operate	9	24
No windshield cleaner	0	1
Attempted larceny	29	26
Allowing improper person to operate	85	97
Totals	35,575	36,967

USED CAR SECTION

(Motor Vehicle Identification)

The following is a resume of the work accomplished by the Used Car Section which indexes, under engine numbers, all motor vehicles registered and reported stolen, and checks reports of sales of used cars against the stolen-vehicle records. Dealers' and repairmen's plates and registration certificates are issued by this section.

The work of the section is summarized in the following tables:—

Dealers

	1936	1937
Total number of first class dealers reporting	1,225	1,351
Total number of second and third class dealers reporting	615	628
Total number making reports to this office	1,840	1,979

Reports

Approximate number of notices of intended sales received daily	280	333
Approximate number of dealers' reports received daily	1,382	1,821

Motor Vehicles Stolen

Number stolen in Boston	3,297	2,885
Number stolen in Massachusetts (including Boston)	7,191	7,726
Number reported stolen from various sources throughout the country, including Massachusetts	21,179	20,679
Number of motor vehicles recovered through information furnished by this office	290	330

Engine and Serial Numbers

Engine numbers assigned to cars	5	9
Certificates issued authorizing the replacement of engine numbers	338	315
Certificates issued authorizing the replacement of serial numbers	191	90
Certificates issued authorizing the replacement of both engine and serial numbers	6	7
Total number of authorization certificates issued	535	421

EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS

The department was represented at meetings of the Conference held at Asbury Park, N. J., May 25 and 26, and Providence, R. I., November 18 and 19, 1937.

Many matters of common interest to the motor vehicle administrators of the member states were studied and discussed, including programs for

highway safety campaigns, methods for procuring uniform enforcement of motor vehicle laws, methods for controlling the speed of motor vehicles, instruction in high schools on motor vehicle operation, physical and mental examination of motor vehicle operators, curbing motor vehicle thefts, the problem of the drunken operator, and the procedure in suspension and revocation of operators' licenses.

The meetings resulted in beneficial gains of knowledge concerning the constantly increasing duties and problems of the administrators, and served to renew a strong spirit of cordial and helpful cooperation.

ANALYSIS OF RECEIPTS

The fees received for the year 1937 together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table:

Certificates of Registration:

Passenger cars (including taxicabs)	960,029	\$2,689,087.06
Commercial cars	119,737	1,410,459.00
Buses	4,927	131,135.40
Trailers	11,333	23,138.00
Motor Cycles	1,176	1,597.75
Manufacturers or Dealer (including repairers)	3,446	10,338.00
Manufacturers or Dealers additional cars (including repairers)	20,710	62,129.00
Licenses to operate:		
Original licenses	103,703	207,406.00
Renewal licenses	1,074,221	2,148,264.00
Examinations	84,250	\$168,500
Re-examinations	25,479	25,479

Total examinations	109,729	193,979.00
Copies of certificates and licenses furnished	39,884	39,883.50
Duplicate number plates furnished	9,214	9,214.00
Miscellaneous receipts, process fees, etc.		18,971.59

Total amount of fees	\$6,945,602.30
Motor Vehicle fees rebated (deducted)	68,891.65

Net fees	\$6,876,710.65
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Court fines received by the Treasurer and Receiver-General*	5,948.55
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Total receipts not including gasoline tax**) credited

Highway Fund Account, 1937,	\$6,882,659.20
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* Fines imposed under the provisions of Chapter 90 are payable to the treasury of the county wherein the offence was committed, effective October 1, 1935 (Acts of 1935, Chapter 303).

** Receipts from the gasoline tax, credited to the Highway Fund, are collected through the office of the Commissioner of Corporations and Taxation.

EXPENSES OF THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles for the fiscal year 1937 was \$1,578,195.99, which was 22.9% of the net fees collected. This cost, deducted from the receipts for the year, left the sum of \$5,304,463.21 available for legislative appropriation for highway work.

ANALYSIS OF EXPENDITURES FOR THE FISCAL YEAR 1937

Personal Services:

Regular employees payroll	\$1,033,461.53
Temporary employees payroll	41,030.05
Overtime payroll	5,505.35
	<u>\$1,079,996.93</u>

Supplies:

Books, maps, etc.	\$820.04
News clippings	268.70
Carbon	641.58
Typewriter supplies	1,038.34
Adding machine supplies	24.65
Other supplies	8,497.80
Envelopes	7,931.76
Guide cards, folders	1,786.87
Paper	1,123.01
Pens, pencils, etc	977.33
Miscellaneous	1,099.26
Typewriter repairs	346.90
Other repairs	1,878.97

 \$26,435.21

Equipment and Furniture:

Typewriter machines	\$7,138.79
Adding machines	488.00
Other machines	5,328.71
Desks	937.00
Bookcases, tables, etc	521.45
Filing cabinets	6,975.49
Chairs, settees, etc.	531.12
Dictograph system	62.79
Headlight and brake testing equipment	1,600.06
Uniforms	3,027.41
Counters, safes etc. (inc. Branch off.)	286.09
Hold-up protection	448.60

 \$27,345.51

Travel:

Officials	\$385.50
Employees	11,011.13
Mileage—Private cars	103,254.77
Auto Maintenance—	
Garage rent	620.90
Gas and oil	1,148.85
Miscellaneous	294.45
Repairs and supplies	347.28
Automobiles purchased	1,133.00
Aviation Expenses—	
Employees	826.55
Mileage (Private cars)	990.54
Garage rent	199.27
Gas and oil	642.24
Miscellaneous	29.00
Repairs and supplies	232.60
Telephone	79.07
Miscellaneous	40.00

 \$121,235.15

Other Services and Expenses:

Expressage	\$2,734.85
Postage	95,447.72
Printing—	
Paper for printing	10,003.56
Other reports	1,830.52
Other printing	11,784.88
Telephone, telegraph and teletype	15,090.59
Premium on Bonds	530.66
Rent (inc. cleaning and labor)	915.00

Labor	1,627.01	
Number plates	129,326.38	
Police lists	8,250.00	
Sundries	272.35	
Air-marking project	2,205.08	
		<hr/>
		\$280,018.60
Branch Office Expenses:		
Rent	\$23,024.34	
Telephone	7,699.12	
Lighting	2,040.23	
Cleaning and Janitor Service	4,746.83	
Express Service to Bank	1,090.00	
Labor	1,131.97	
Towels, Ice and Water	704.85	
Travel	170.00	
Miscellaneous	1,316.79	
Remodelling Office	832.56	
		<hr/>
		\$42,756.69
		<hr/>
		\$497,791.16
<i>Publicity for Safety Work</i>		
Printing		\$407.90
<i>Summary</i>		
Payrolls		\$1,079,996.93
Expenses		497,791.16
Publicity for Safety Work		407.90
		<hr/>
		\$1,578,195.99

RELATING TO WATERWAYS AND PUBLIC LANDS BOSTON HARBOR

The Commonwealth Flats at South Boston

Commonwealth Pier 5

The minor work necessary for the effective operation of the pier has been continued during the year. Repairs have been made to the gangways, floating fenders, sprinkler system, elevators, elevator machinery, Ogden doors and to the heating plant.

The repair and reconstruction of platforms at this pier, approved as Public Works Administration Project No. Mass. 1301 was completed late in May, 1937. This work was done under two contracts, one with the Merritt-Chapman and Scott Corporation, the other with the Bay State Dredging and Contracting Company.

Under contract of December 13, 1935, with the Merritt-Chapman and Scott Corporation the pile and timber platforms on the outer portions of the pier surrounding the pier sheds were removed, and a new concrete platform built consisting of a reinforced concrete deck slab on a frame work of girders and steel beams supported on caisson and steel pile foundations with the steel piles driven to rock bearing or to hard under-lyin strata. This work was completed May 26, 1937.

Under contract of July 14, 1936, with the Bay State Dredging and Contracting Company repairs were made to the foundations of the Head House at the inshore end of the pier. On account of the difficulty of supporting this structure to allow the removal of the wooden piles, it was decided to enclose the foundations with a steel sheet pile bulkhead and to protect the wooden piles with light weight concrete. This work was completed March 1, 1937.

The total contract cost of the work under these two contracts was \$780,450.60, for which a grant of \$386,526 was made by the Public Works Administration.

To facilitate the examination of passengers from the Canadian National Steamships a request was made by the United States Customs Officials for the erection of a fence in the room at Commonwealth Pier used for this purpose. A contract was made on July 13, 1937, with P. J. Dinn and Company for the building of a wire fabric fence 8 feet high and about 199 feet 4 inches long in the Examination Room at the pier at a contract price of \$686. The work was completed August 4, 1937.

Increasing complaints were received this year from steamship agents and stevedores as to certain difficulties in moving cargo because of the settlement of the pavement on the first floor of the pier. As repairs to other floors at the pier had become necessary a contract with the Warren Brothers Roads Company was made on November 2, 1937, for resurfacing with bituminous concrete on a Portland cement concrete base portions of the first floor and second floor at the pier. This work is now in progress.

A summary of freight and passengers using the pier in 1937 follows:

**NUMBER OF TONS FREIGHT AND PASSENGERS HANDLED AT COMMONWEALTH
PIER 5 DURING FISCAL YEAR ENDING NOVEMBER 30, 1937**

Steamship Line	Number of Ships	Inward Freight Tons			Outward Freight Tons			Passengers		
		R.R.	Truck	Total	R.R.	Truck	Total	In	Out	Total
Amer.-Haw. S.S. Co. . .	82	28,429	85,070	113,499	14,440	28,323	42,763	—	—	—
Luckenbach S.S. Co. . .	51	8,533	58,513	67,046	8,585	17,420	26,005	—	—	—
Norton, Lilly & Co. . .	10	1,393	13,315	14,708	—	—	—	—	133	133
Int'l Mercantile Marine	2	1,939	6,872	8,811	—	—	—	—	—	—
Can. Nat. S.S. Co. . . .	71	188	1,295	1,483	88	416	504	4,113	3,308	7,421
Italian Line	15	—	146	146	290	100	390	—	2,696	2,696
French Line	3	—	—	—	—	—	—	187	572	759
Holland Amer. Line . . .	3	—	—	—	—	—	—	441	206	647
TOTALS	237	40,482	165,211	205,693	23,403	46,259	69,662	4,741	6,915	11,656

In the early summer large shipments of wool arriving at the pier could not be moved readily on account of the strike of the wool handlers and accumulated to such an extent as to cause a considerable congestion of cargo. This condition resulted in a demand for additional pier facilities in Boston Harbor.

In response to this demand the Department has during the year made studies and investigations as to feasibility and comparative costs of building a new pier easterly of the Fish Pier at South Boston, of rebuilding and enlarging Commonwealth Pier 1 at East Boston, and of constructing piers at other sites in Boston Harbor.

DEVELOPMENT OF LAND SOUTH OF SUMMER STREET

The seven sections of Storehouse No. 1 on E Street have been occupied during the year by the Wiggin Terminals, Inc. Repairs to the Storehouse needed this year have been carried out for the most part by employees of the Department.

RAILROAD YARDS OF THE COMMONWEALTH

Under an agreement dated November 23, 1937, the Commonwealth granted to the Trustees of the property of the New York, New Haven and Hartford Railroad Company the continued use to October 31, 1941, of the surplus capacity of the Commonwealth Railroad Yard at a rental of \$10,500 per year. This yard has been used for some years by the railroad company under agreements of November 15, 1916 and March 16, 1928. The present agreement provides that the use of this yard by the Company

"shall in all cases be subordinate to the use of said railroad yard in connection with said Commonwealth Pier 5 and other properties of the Commonwealth north of Summer Street in South Boston and subject to such reasonable rules and regulations as may from time to time be prescribed by the Commonwealth or such board or boards as may exercise its powers, and the use by the Contractor shall be without material interference with such use."

The Commonwealth under date of November 23, 1937, made an agreement with the Trustees of the New York, New Haven and Hartford Railroad Company for the continuance by the Company to December 31, 1941, of its use of the surplus capacity of the railroad yard built by the Federal Government and released to the Commonwealth by the Secretary of War on May 14, 1926, and two tracks northerly of and connecting with the tracks of the Commonwealth railroad yard, at a rental of \$29,250 per year. This yard has been used for some years by the railroad company under an agreement dated March 16, 1928. The present agreement provides:

"The use of said Federal railroad yard and of said two tracks which said Contractor may make hereunder shall in all cases be subordinate to the use of said Federal railroad yard and tracks, which the Commonwealth may at any time have occasion to make and shall be subject to such reasonable rules and regulations as may from time to time be prescribed by the Commonwealth or such board or boards as may exercise its powers, and the use by the Contractor shall be without material interference with such use; provided that the Contractor shall maintain and at all reasonable times make available for service two tracks lying within and through said Federal Railroad yard for use of delivery of cars to and from the United States Army Base, in accordance with the terms of an agreement between said Commonwealth and the United States of America dated May 14, 1926, the conditions of which as applied to said two tracks are hereby referred to and made a part of this agreement during the continuance thereof."

THE COMMONWEALTH FLATS AT EAST BOSTON

Aircraft Landing Field - - - Boston Airport

The greater part of the area reclaimed by the Commonwealth at East Boston continues to be occupied by the city of Boston as an airport. On August 10, 1928, under authority of Chapter 64 of the Resolves of that year, the Department leased to the city approximately 5,717,000 square feet of land for this purpose. The use of an additional area of 4,210,760 square feet was authorized by a lease executed July 14, 1930, in accordance with the provisions of Chapter 53 of the Resolves of 1930. The matter of the lease to the city of two additional parcels, one northeasterly of the area leased in 1928 and 1930, the other southeasterly of the parcel leased in 1930, is still pending.

The use of these areas by the city is subject to certain rights of occupancy and use granted by lease of June 30, 1922 to the War Department, with an option of annual renewals to June 30, 1937, by a supplementary agreement of December 27, 1926.

During the year studies have been made and estimates of cost of enlarging the airport to provide additional area and increased length of runways.

Reclamation of Flats

The work of dredging and filling at East Boston under contracts made by the Department for the purpose of reclaiming flats has been in abeyance since 1923. Between that year and November 30, 1937, approximately 3,186,510 cubic yards of material dredged from various locations

in the harbor have been deposited in the receiving basin. In the year ending November 30, 1937, about 106,700 cubic yards were dumped upon flats northerly of Governors Island. The Commonwealth has reclaimed approximately 150 acres of land at East Boston.

Under licenses granted for building bulkheads, dredging and filling, the city has reclaimed for the extension of the airport about 140 acres.

COMMONWEALTH PIER 1, EAST BOSTON

Work under letter contract of November 25, 1936, with the Flynn Roofing and Sheet Metal Works for installing skylights at the pier was completed December 30, 1936, at a contract cost of \$1,601.18. This contractor in March made repairs to the roof of the pier in accordance with letter contract of March 1, 1937, at a contract cost of \$278.26.

During the year six vessels have docked at this pier, discharging a total cargo of 7,027 tons.

EAST BOSTON - - CUNARD DOCKS

The dredging to a depth of 40 feet at mean low water of an area between the Cunard Docks and the Main Ship Channel in Boston Harbor, under letter contract of August 4, 1936, with the Bay State Dredging and Contracting Company was completed December 30, 1936, at a contract cost of \$12,876.27.

ANCHORAGE BASIN

On January 21, 1937, a letter contract was made with the M and R Construction Company for repairs to the dolphins marking the northerly edge of the Anchorage Basin at East Boston. This work was completed February 2, 1937, at a contract cost of \$345.

DORCHESTER BAY

Hearing was held May 5, 1937, on petition of members of the Savin Hill Yacht Club for the dredging of an area adjacent to the basin used by the boats of the club in Dorchester Bay near the club house.

On June 7, 1937, a contract was made with the Bay State Dredging and Contracting Company to dredge a basin in Dorchester Bay at the Savin Hill Yacht Club to a depth of 8 feet at mean low water at the following contract prices: for dredging and disposing of the dredged material 45 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. The work was completed July 3, 1937, at a contract cost of \$14,606.55. Toward this cost a contribution of \$3,000 was made by the Metropolitan District Commission.

MALDEN RIVER

A contract was made on July 13, 1937, with Herbert T. Gerrish to dredge to a depth of 6 feet at mean low water a channel about 2200 feet long and 100 feet wide in Malden River, Everett, Malden and Medford, at the following contract prices: for dredging and disposing of the dredged material on shore, 44 cents per cubic yard, measured in situ; for removing and disposing of boulders \$20 for each cubic yard. This work was completed October 21, 1937, at a contract cost of \$19,498.60. Toward this cost a contribution of \$3,000 was made by The Barrett Company.

On October 26, 1937, a contract was made with the North Atlantic Dredging Company to dredge in Malden River a channel about 1200 feet long and 60 feet wide on the bottom to a depth of 6 feet at mean low water below the Medford Street Bridge, and a channel 50 feet wide on the bottom to a depth of 5 feet at mean low water through said bridge and for a distance of about 150 feet above it. The contract prices for this work were: for dredging and disposing of the dredged material on shore 45 cents per cubic yard, measured in situ; for removing and disposing of all boulders \$20 for each cubic yard. This dredging is now in progress.

Toward the cost of the work a contribution of \$1,000 was made by the Morton Oil Company.

WOLLASTON DREDGING

Hearing was held January 27, 1937, on petition of the Wollaston and Squantum Yacht Clubs for dredging the channel and basins at Wollaston serving the two clubs.

On June 7, 1937, a contract was made with the J. S. Packard Dredging Company to dredge to a depth of 6 feet at mean low water a channel and basin at the Wollaston and Squantum Yacht Clubs in Quincy, at the following contract prices: for dredging and disposing of the dredged material 47 cents per cubic yard, scow measurement; for removing and disposing of boulders \$25 per cubic yard. This work was completed July 16, 1937, at a contract cost of \$22,808.63. Toward this cost a contribution of \$3,500 was made by the city of Quincy.

POINT PEMBERTON SEA WALL, HULL

On March 26, 1937, a contract was made with Karl M. Fredrickson to place about 140 linear feet of concrete footing under the toe of the existing sea wall, to make patch repairs to the present wall, including filling of the construction joints, to place about 1000 tons of stone riprap including chips, and to rehandle existing riprap that may interfere with the construction of the proposed footing. The contract prices for this work were: for furnishing all labor and materials and constructing the concrete footing under and in front of the present wall, including all excavation, back filling and incidental work, \$12 for each cubic yard of concrete placed in the completed work; for furnishing labor, materials, tools and equipment and doing all work necessary to patch existing sea wall and fill the construction joints, the lump sum of \$100; for each ton of new stone riprap or chips furnished in place in the completed work, \$1.44 for each ton of 2000 pounds; for rehandling existing riprap and replacing the same within the new work, including all incidental expense the lump sum of \$15. This work was completed May 4, 1937, at a contract cost of \$2,182.84.

WEYMOUTH FORE RIVER, QUINCY AND WEYMOUTH

The dredging in Weymouth Fore River in co-operation with the project of the Federal Government has been continued this year.

The work under letter contract of November 19, 1936, with the J. S. Packard Dredging Company was completed March 31, 1937, at a contract cost of \$5,958.28.

On May 17, 1937, a letter contract was made with the J. S. Packard Dredging Company for dredging approximately 8000 cubic yards of material from an area in the channel above the Weymouth Fore River Bridge to a depth of 27 feet at mean low water, at a contract price of 46 cents per cubic yard, scow measurement, for dredging and disposing of the dredged material. This work was completed May 20, 1937, at a contract cost of \$3,712.20.

A further contract with the J. S. Packard Dredging Company was made on June 7, 1937, for the removal of shoals in the channel from the upstream side of the Quincy-Weymouth Bridge for a distance of about 2800 feet in Weymouth Fore River to a depth of 27 feet at mean low water, at the following contract prices: for dredging and disposing of dredged material 58 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$25 per cubic yard. This work was completed August 30, 1937, at a contract cost of \$12,005.42.

The dredging carried out under these contracts completes the work required by the Federal Government in connection with its recent project for the improvement of Weymouth Fore River.

HAYWARD'S CREEK

Early in the fiscal year the Department with the assent of the Governor and Council executed a deed and agreements to allow further development of land at Hayward's Creek.

By deed dated December 29, 1936, the Commonwealth conveyed to the Bethlehem Shipbuilding Corporation, Ltd., two parcels of land in Quincy and Braintree, containing a total area of 14.71 acres at a price of \$73,550.

By agreement of December 29, 1936, the Fore River Railroad Corporation granted to the Commonwealth certain rights to cross over and under the railroad operated over a strip of land conveyed to the Company in 1920 and separating parcels of land belonging to the Commonwealth. The execution of this agreement allows convenient access from each of these parcels to the other.

An agreement was also made on December 29, 1936, with Matthew P. Scullin for his purchase of five parcels of land of the Commonwealth in Quincy and Braintree, containing 33.49 acres. The purchaser is to pay \$100,000 in 20 equal annual payments and, in addition, a rental of \$1,875 per year until the payments are completed.

MARINE BORERS

The Department has continued this year its co-operation with the New England Committee on Marine Piling Investigation by maintaining four test boards in Boston Harbor at the following locations: Commonwealth Pier 1, East Boston; Commonwealth Pier 5, South Boston; Weymouth Fore River Bridge at Quincy Point, and at the wharf owned by the Commonwealth in South Bay, Roxbury.

Sample blocks removed each month from the test boards are sent to the Committee for examination and comparison with similar blocks from other stations on the New England coast. The results of these examinations are published by the Committee.

INSPECTION OF STRUCTURES IN TIDE WATER

In 1936 and 1937 the appropriations made by the Legislature for the inspection of structures in tide water have enabled the Department to continue the work in Boston Harbor during these two years.

Above mean low water 193 structures have been inspected; 26 structures have been examined by a diver below mean low water; and 3 special reports with plans and photographs have been made relative to structures not now being maintained in accordance with the provisions of the licenses granted for the work and the plans accompanying the licenses.

SURVEYS

Surveys have been made during the year in connection with the maintenance and operation of property of the Commonwealth. Hydrographic surveys have been carried on for the purpose of providing data for projects for the improvement of navigation, in Mystic River, Malden River, at Jeffries Point, in Weymouth Fore River, Neponset River, Dorchester Bay, Quincy Bay, Hingham Bay at Houghs Neck, Hingham Harbor at Crow Point, Weir River and Hull Bay.

RIVERS, HARBORS, TIDE WATERS AND FORESHORES
OUTSIDE OF BOSTON HARBOR

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, Chapter 91, General Laws, an appropriation of \$100,000 was made during 1937, with the following condition:

"provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is

covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered."

An appropriation of \$22,500 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds.

Petitions were filed with the Department this year for surveys and improvements in the following localities: Barnstable shore, Barnstable; Bass River, Dennis and Yarmouth; Brewster Shore; Chatham Shore; Cotuit Shore, Barnstable; Dennis Shore; Falmouth Shore; Harbor Cove, Gloucester; Harwich Shore; Herring River, Harwich; Lagoon Pond, Oak Bluffs and Tisbury; Lewis Bay, Barnstable; Lewis Bay, Yarmouth; Little Harbor, Marblehead; Lobster Cove, Gloucester; Lynn Harbor, Lynn; Megansett Harbor, Falmouth; Newburyport Shore; Oak Bluffs Shore; Pilgrim Beach, Truro; Provincetown Shore; Silver Beach and Wild Harbor, Falmouth; Vineyard Haven Harbor; Wellfleet Shore; West Bay, Barnstable.

Public hearings have been held and estimates of cost made, but no work has been undertaken to carry out improvements petitioned for at Bass River, Dennis and Yarmouth; Little Harbor, Marblehead; Lynn Harbor, Lynn; Megansett Harbor, Falmouth; Newburyport Shore; Provincetown Shore.

Information as to work previously done in rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands of the Department of Public Works and the Department of Public Works.

An account of work done during 1937 for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor follows.

BARNSTABLE DREDGING

Cotuit Harbor, East Bay and Lewis Bay

Work under contract of July 1, 1936, with the Bay State Dredging and Contracting Company for dredging the entrance channels to Cotuit Harbor, East Bay and Lewis Bay, was completed May 6, 1937, at a contract cost of \$20,565. Toward this cost a contribution of \$9,000 was made by the town of Barnstable.

Hyannis Harbor

Hearing was held January 27, 1937, on a petition of Horatio S. Bond and others for dredging an anchorage basin in Hyannis Harbor,—sometimes known as Inner Lewis Bay.

On July 14, 1937, a contract was made with Herbert T. Gerrish to dredge by the hydraulic method an anchorage basin 6 feet deep at mean low water in Hyannis Harbor at the following contract prices: for dredging and disposing of the dredged material within the disposal area or on marsh or flats, 53 cents per cubic yard measured in place; for removing and disposing of boulders \$20 per cubic yard. This work was completed November 30, 1937, at a contract cost of \$13,137.64. Toward this cost a contribution of \$5,000 was made by the town of Barnstable.

Popponesset Bay

The work of dredging a channel and basin in Popponesset Bay under contract of July 21, 1936, with Herbert T. Gerrish was completed June 9, 1937, at a contract cost of \$11,028.16. Toward this cost a contribution of \$4,000, was made by the town of Barnstable and contributions amounting to \$1,600 by individuals interested.

West Bay

Hearing was held January 27, 1937, on petition of the Selectmen for widening and deepening the channel at the entrance to West Bay.

On June 7, 1937, a contract was made with the Bay State Dredging and Contracting Company for dredging a channel at the entrance and into West Bay to a depth of 6 feet at mean low water and a width of 100 feet on the bottom, at the following contract prices: for dredging and disposing of the dredged material 65 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed July 29, 1937, at a contract cost of \$7,176. Toward this cost a contribution of \$3,750 was made by the town of Barnstable.

BARNSTABLE SHORE PROTECTION

Cotuit

Hearing was held November 10, 1937, on petition of the Selectmen for protective work at the town landing and bathing beach on Ocean Avenue at Cotuit.

Proposals for building about 225 linear feet of concrete sea wall and a stone jetty about 100 feet long opposite Ocean View Avenue were received November 30, 1937.

West Beach - - Squaw Island Road

Hearing was held January 27, 1937, on petition of the Selectmen for additional jetties to protect the shore at West Beach.

On October 13, 1937, a contract was made with Frederick V. Lawrence for building three stone jetties with riprap returns along and easterly of Squaw Island Road at Hyannisport, at a contract price of \$2.70 for each ton of 2000 pounds of granite stone riprap and chips placed in the completed work. Under this contract work is now in progress.

South Hyannis

A contract was made on October 27, 1937, with George M. Bryne for building a stone jetty and placing stone riprap for the protection of a part of the shore at South Hyannis, at a contract price of \$2.47 per ton of 2000 pounds for granite stone riprap and granite stone chips furnished and placed in the completed work. The stone jetty and the placing of riprap were completed November 15, 1937, at a contract cost of \$1,521.30. Toward this cost a contribution of \$400 was made by the County and an equal amount was contributed by the owner of the property particularly benefited by the protection.

BREWSTER SHORE PROTECTION

Hearing was held January 27, 1937, on a petition of the Selectmen for jetty construction on the northerly shore of Brewster at Ellis Landing and on a petition of Eleanor Gleason for the building of a jetty to protect her property.

On August 25, 1937, a contract was made with George M. Bryne to place riprap upon the shore at the bank in front of the Gleason property and at Ellis Landing, at a contract price of \$3.08 for each ton of 2000 pounds of heavy granite stone riprap and stone chips furnished and placed in the completed work. The placing of riprap was completed October 12, 1937, at a contract cost of \$1,855.05. Toward this cost contributions of \$500 each were made by the town and the county.

CAPE COD CANAL LANDING PIER, BOURNE

The Cape Cod Canal pier authorized by Chapter 414 of the Acts of 1931, and completed in 1934, is built of solid fill construction about 600 feet long, providing a depth of 25 feet in the dock at mean low water and a light timber extension about 400 feet long as a tie up for vessels along the easterly side of the turning basin. A superstructure 36 feet wide

and 200 feet long has been built of brick, steel and timber upon the pier. No work except minor repairs has been needed during the year.

CONNECTICUT RIVER

WPA Work

During the year 1937 the Department in co-operation with the Works Progress Administration continued the work of placing riprap and building dikes and concrete walls at various points along the Connecticut River to repair damage caused by flood and protect certain towns from future damage due to excessive high water.

Work was carried on this year in the following towns and cities: Northfield, Montague, Deerfield, Whately, Hatfield, Hadley, Northampton, Easthampton, South Hadley, Chicopee, Holyoke and West Springfield.

The Department in 1937 has expended State funds amounting to \$23,970.45 for this work as its share of the total expenditure of \$242,996.19.

DENNIS SHORE PROTECTION

Dennisport

The work of building two stone jetties under the terms of the contract of September 22, 1936, with the H. and J. Construction Company was completed January 8, 1937, at a contract cost of \$2,250. Toward this cost contributions of \$600 each were made by the town and the county.

Dennisport and Sesuit

Hearing was held January 27, 1937, on petition of the Selectmen for three stone jetties on the southerly shore of Dennis at Dennisport.

A contract was made on August 25, 1937, with George M. Bryne to build four stone jetties on the shore at Dennisport and one stone jetty on the shore at Sesuit, at the following contract prices: for furnishing and placing heavy granite stone riprap and granite stone chips in the jetties, \$3.08 for each ton of 2000 pounds of stone in the completed work. These jetties were completed November 6, 1937, at a contract cost of \$5,658.18. Toward this cost contributions of \$1,500 each were made by the town and the county.

EAST BAY, BARNSTABLE

On October 27, 1937, a contract was made with Harry L. Jones to build a timber fence about 150 feet long westerly of the west jetty at the entrance to East Bay, at a contract price of \$494.76 for building the fence, including all material, the furnishing of all plant, tools, labor and equipment and incidental work. This construction is now in progress.

FALMOUTH SHORE PROTECTION

Falmouth Heights and Menauhant

Hearing was held on January 27, 1937, on petitions of the Selectmen and others for stone jetties at Falmouth Heights and Menauhant.

A contract with Frederick V. Lawrence was made on July 14, 1937, for building a stone jetty about 190 feet long at Falmouth Heights and a stone jetty about 200 feet long at Menauhant, at a contract price of \$3.24 per ton of 2000 pounds of granite stone riprap and chips furnished and placed in the jetties. This work was completed September 9, 1937, at a contract cost of \$10,983.60. Toward this cost contributions of \$2,750 each were made by the town and the county.

Shore Street

Work under contract of October 6, 1936, with Turner and Breivogel for building a steel sheet pile bulkhead and reinforced concrete cap opposite Shore Street was completed December 9, 1936, at a contract cost of \$2,189.93.

On December 18, 1936, a letter contract was made with S. W. Lawrence to furnish and place about 100 tons of stone riprap and chips at a contract price of \$3 per ton to protect the westerly end of the steel and concrete bulkhead built under the contract of October 6, 1936. This work was completed February 1, 1937, at a contract cost of \$335.64.

Toward the cost of the protective work provided under these two contracts, contributions of \$750 each were made by the town and the county.

GLOUCESTER FISH PIER

After the refusal in November, 1936, of the Federal Public Works Administration to aid in financing the building of the Gloucester Fish Pier unless the lease required by the provisions of Chapter 303 of the Acts of 1936, was executed with a non-profit sharing organization, the citizens of Gloucester organized the Gloucester Community Pier Association, Inc., in compliance with the ruling of the Federal authorities in this matter.

On March 1, 1937, the Mayor of Gloucester submitted to the Department the Order of the City Council under date of February 26, 1937, authorizing the taking of land for the site of the proposed pier, the Order of taking of the same date, an order of the City Council made February 26, 1937, authorizing the Mayor to sign an agreement with the Department to construct a public way from the main highway over Parker Street to said pier, and the agreement executed by the Mayor in accordance with the Order. A deed dated March 1, 1937, from the city to the Commonwealth of the land needed for the building of the pier was also delivered to the Department.

An agreement under date of March 1, 1937, between the Department and the Gloucester Community Pier Association, Inc., for the leasing of the pier was executed and an indenture of lease under the same date was signed. The agreement and lease were approved by the Governor and Council and the terms accepted by the Federal Government.

On April 6, 1937, a contract was made with the Bay State Dredging and Contracting Company for the construction of a fish pier at Five Pound Island, Gloucester, and for dredging approaches to the pier, at unit prices amounting to a contract cost of \$331,672.20. This work is now in progress.

A contract was made on August 3, 1937, with the Frick Company, Inc., to furnish and install in complete working order the equipment specified in the Stores Building and the Cold Storage Building at this pier, for the lump sum of \$207,186.

On October 5, 1937, a contract was made with the H. L. Hauser Building Company, Inc., for the construction of the Stores Building and Cold Storage Building at the Gloucester Fish Pier at the following contract prices: for furnishing materials and erecting complete in place the Stores Building above the piles and the Cold Storage Building above elevation 8, with appurtenant structures and equipment, the lump sum of \$439,704; for excavation, foundations, steel concrete piles, etc., at unit prices, a sum estimated at \$38,850. This work is now in progress.

HARBOR COVE, GLOUCESTER

Hearing was held January 27, 1937, on petition of the Mayor of Gloucester for dredging in Harbor Cove to provide access to the city landing.

On July 22, 1937, a letter contract was made with the Bay State Dredging and Contracting Company to excavate 1200 cubic yards of material from an area near the city landing at a contract price of 40 cents per cubic yard, scow measurement. This work was completed August 5, 1937, at a contract cost of \$480. Toward this cost a contribution of \$240 was made by the city of Gloucester.

HARWICH SHORE PROTECTION

Harwichport

The work of building four stone jetties and reconstructing two jetties

at Harwichport under contract of September 8, 1936, with the H and J Construction Company was completed December 8, 1936, at a contract cost of \$4,505.40. Toward this cost contributions of \$1,000 each were made by the town and the county.

The building of four additional jetties at Harwichport under contract of November 17, 1936, with Frederick V. Lawrence was completed December 4, 1936, at a contract cost of \$3,827.25. The town and the county contributed \$1,200 each toward the cost of these jetties.

South Shore

Hearing was held January 27, 1937, on petition of the Selectmen for the building of jetties along the south shore of Harwich between the Dennis and Chatham boundary lines.

On September 14, 1937, a contract was made with Frederick V. Lawrence for building a stone jetty near Horse Grass Hill, extending two jetties, repairing four jetties and rebuilding one jetty, along the Harwich shore on Nantucket Sound. The contract prices for this work were: for furnishing and placing granite stone riprap and stone chips in the new jetty, the extension of two jetties and the repairs to the other jetties, the sum of \$3 for each ton of 2000 pounds; for furnishing crane, operator, two men, and for all incidental work in rebuilding one jetty, the sum of \$7 for each hour for crane, operator and two men. The work was completed November 9, 1937, at a contract cost of \$3,682.63. Toward this cost contributions of \$1,000 each were made by the town and by the county.

HERRING RIVER AND WITCHMERE HARBOR, HARWICH

In October an inspection of the jetties at the entrance to Herring River and to Witchmere Harbor showed considerable sand moving through the structures and causing shoaling in the harbors. Repairs to these jetties seemed imperative.

A contract was made on October, 1937, with Louis A. Byrne for repairing the westerly stone jetties at Witchmere Harbor and Herring River by placing crushed stone to fill openings in the existing stone work, at the following contract prices: for furnishing and placing broken stone in the jetties, \$3.70 for each ton of 2000 pounds in the completed work; for material excavated and placed as back filling in the completed work, 80 cents for each cubic yard. These repairs are not yet completed. Toward the cost of the work a contribution of \$1,500 has been made by the town.

KATAMA BAY, EDGARTOWN

Hearing was held two years ago upon a petition of the Selectmen for the reopening of a channel through the beach from Katama Bay to the Atlantic Ocean, as the channel excavated in 1921 had shoaled and shifted to the eastward.

On August 3, 1937, a contract was made with Turner and Breivogel to excavate a channel through Katama Beach from Katama Bay to the ocean at a contract price of \$1,745 for the completed work, providing a channel 50 feet wide on the bottom, with side slopes of 2 on 1, about 300 feet long and excavated to the depth of mean low water in Katama Bay. This work was completed August 30, 1937, at a contract cost of \$1,745.

LAGOON POND, OAK BLUFFS AND TISBURY

On February 10, 1937, a letter contract was made with Herbert T. Gerrish to excavate about 1000 cubic yards of material from a shoal lying inside the new Lagoon Pond Bridge between Oak Bluffs and Tisbury, to a depth of 6 feet at mean low water and a width of approximately 40 feet, at a lump sum price of \$935, including the disposal of excavated material on marsh land near by. The dredging was completed February 20, 1937, at a contract cost of \$935. Toward this cost a contribution of \$500 was made by the county.

LAKE ANTHONY, OAK BLUFFS

Although the dredging of the entrance channel and basin at Lake Anthony under contract of April 1, 1936, with Herbert T. Gerrish ended November 10, 1936, certain shoal areas remained which could not be removed by the hydraulic dredge used for the greater part of the work.

To complete the dredging a letter contract with the Bay State Dredging and Contracting Company was made on March 29, 1937, for removal of the shoal areas to a depth of 6 feet at mean low water, at a contract price of 95 cents per cubic yard, scow measurement. This work was completed April 12, 1937, at a contract cost of \$1,376.55. The cost of this dredging was paid from funds available under the provisions of Chapter 464 of the Acts of 1935.

LEWIS BAY, YARMOUTH

Hearing was held January 27, 1937, on petitions of the Selectmen and of the Lewis Bay Yacht Club for dredging in Lewis Bay.

On June 7, 1937, a contract was made with the Bay State Dredging and Contracting Company to dredge a channel 100 feet wide on the bottom and 7 feet deep at mean low water, and a basin 6 feet deep at mean low water in Lewis Bay at West Yarmouth, at the following contract prices: for dredging and disposing of the dredged material 51 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed July 10, 1937, at a contract cost of \$8,835.75. Toward this cost the town made a contribution of \$5,000.

LOBSTER COVE, GLOUCESTER

Hearing was held January 27, 1937, on petitions of Brant M. Dexter and others for dredging in Lobster Cove.

A contract was made on July 14, 1937, with the Bay State Dredging and Contracting Company for dredging to a depth of 8 feet at mean low water a shoal area on Babson's Flats in Lobster Cove, at the following contract prices: for dredging and disposing of the dredged material 56 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. The work was completed August 3, 1937, at a contract cost of \$4,928. Toward this cost a contribution of \$2,500 was made by the city.

MANCHESTER HARBOR, MANCHESTER

The dredging of an anchorage basin and channel in Manchester Harbor under contract of September 8, 1936, with the J. S. Packard Dredging Company was completed April 29, 1937, at a contract cost of \$38,197.28. Toward this cost a contribution of \$20,000 was made by the town.

MEGANSETT HARBOR, FALMOUTH

The building of a stone breakwater at Megansett Harbor under contract of September 8, 1936, with George M. Bryne was completed February 10, 1937, at a contract cost of \$23,267.84. Toward this cost a contribution of \$12,000 was made by the town.

NEW BEDFORD STATE PIER

On August 19, 1937, the Lamport Manufacturing Supply Company, Inc., ended its occupancy of a part of the State Pier at New Bedford. After the completion of the necessary repairs the whole pier will be available again for water borne commerce.

A contract with Maurice M. Devine, Inc., was made October 27, 1937, to repair and reconstruct certain portions of the cement plaster walls at the steel shed and to furnish and replace five window sash, at the following contract prices: for removing existing plaster and applying gunite to specified portions of the wall, the lump sum of \$1,100; for removing plaster and applying gunite to certain other portions of the wall, 40 cents

per square foot of wall surface; for applying a flash coat of gunite to certain other portions of the wall, 30 cents per square foot of surface; for removing five old window sash and furnishing and installing five new window sash, the lump sum of \$275. This work is now in progress.

On October 27, 1937, a contract was made with John F. Shea Company, Inc., for repairing and waterproofing the roof of the two-story steel shed at the following contract prices: for 5-ply tar and gravel roofing furnished and placed 11 cents for each square foot; for replacing old planks with new, including all labor, material and fastenings, 10 cents per square foot; for copper furnished and placed 50 cents per square foot. This work is now in progress.

A letter contract with Frank C. Taylor was made November 29, 1937, for furnishing, fitting and securing floating fender logs at the State Pier. This work is now in progress.

To provide for the use of this pier to its full capacity the Department is asking for an additional appropriation for movable drops upon the south side and for building unloading platforms on the second floor of the steel shed to allow the discharge of cargo directly to this floor, and for heavy floating fenders on the south side of the pier. No funds are yet available for this work.

Three steamship lines in coastwise traffic now make weekly stops at the pier and a load of lumber is occasionally received from the West Coast.

OAK BLUFFS SHORE PROTECTION

Hearing was held January 27, 1937, on petition of the Selectmen for protection of the shore at Oak Bluffs.

On August 3, 1937, a contract was made with Turner and Breivogel to build a stone jetty northerly of Nantucket Avenue in Nantucket Sound at Oak Bluffs, at a contract price of \$4.95 per ton of 2000 pounds of heavy stone riprap and stone chips furnished and placed in the completed work. This jetty was completed September 20, 1937, at a contract cost of \$1,983.66. Toward this cost a contribution of \$1,000 was made by the town.

A letter contract was made with Turner and Breivogel on September 23, 1937, for placing additional riprap in front of the bulkhead at the Highlands, at a contract price of \$4.50 per ton. This work was completed October 5, 1937, at a contract price of \$1,579.41.

On October 25, 1937, a letter contract was made with Turner and Breivogel for repairs to certain of the timber jetties extending from the sea wall along the water front at Oak Bluffs. The repairs are to be made by the use of creosoted yellow pine timber and piles at a contract price not exceeding a total cost of \$1,859.16. This work has not yet begun.

COMMONWEALTH PROPERTY AT PLYMOUTH

An appropriation of \$3,500 was made this year by the Legislature for expenses of the property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Department by vote of the Governor and Council on July 17, 1924. The usual care of the grounds and pier and the necessary minor repairs have been carried on during the year.

A letter contract with Arthur K. Finney was made on June 16, 1937, for placing about 80 cubic yards of gravel filling in the approach to the State Pier. This work was completed June 29, 1937, at a contract cost of \$44.

PROVINCETOWN HARBOR, PROVINCETOWN

By item 693a, Chapter 434 of the Acts of 1937, an appropriation of \$4,000 was made available for dredging at or near the public town wharf at Provincetown.

Proposals for this work, invited by public advertisement, were received

July 13, 1937. As all the bids exceeded the amount of the appropriation no further action has been taken.

PROVINCETOWN TERCENTENARY COMMISSION

During the year the land at Provincetown acquired by the Provincetown Tercentenary Commission and placed under the control of the Department June 23, 1926, has been cared for from funds appropriated for this area and the Province Lands. An employee has been kept at work during the summer to maintain the park in proper condition.

ROUGHAN'S POINT, REVERE

The work of building a concrete and steel sea wall, granite steps, solid filling and the placing of riprap at Roughan's Point, under contract of November 17, 1936, with M. F. Gaddis, Inc., was completed July 29, 1937, at a contract cost of \$137,254.49.

This project was carried out under the provisions of Chapter 358 of the Acts of 1936. In accordance with the terms of the statute the city of Revere made a contribution of \$42,500 toward the cost of the work.

SCITUATE SHORE PROTECTION

Under a letter contract of November 24, 1936, with Frank H. Barry certain minor repairs were made to sea walls at Scituate. The work was completed January 19, 1937, at a contract cost of \$1,799.53.

SENGEKONTACKET POND, OAK BLUFFS

Chapter 374 of the Acts of 1935, authorized the Department of Public Works to construct a channel 30 feet wide from Nantucket Sound to Sengekontacket Pond in Oak Bluffs, to build a bridge and approaches to carry the existing State highway between Oak Bluffs and Edgartown across said channel, and to build jetties on each side of the entrance of said channel in Nantucket Sound. The act provided for an appropriation of not more than \$12,500 by the State and required that no work be begun until the town of Oak Bluffs contributed and paid into the Treasury of the Commonwealth the sum of \$12,500.

The required contribution was paid by the town on December 5, 1936.

A contract was made on December 8, 1936, with Turner and Breivogel for excavating a channel from Nantucket Sound to Sengekontacket Pond, for constructing two stone jetties, for placing riprap on the channel slopes and for building a highway bridge and approaches in Oak Bluffs. The contract prices for this work were: for material excavated in proposed channel and disposed of within disposal areas, 45 cents per cubic yard; for removing and disposing of boulders, \$3.50 per cubic yard; for each ton of heavy stone riprap and stone chips furnished in place in the completed work \$4.50 per ton; for constructing by-pass, including all materials, plant, equipment, lights and incidental work \$285; for building bridge and approaches, unit prices. This work was completed July 24, 1937, at a contract cost of \$24,078.17.

TRURO SHORE PROTECTION

Pilgrim Beach

Hearing was held January 27, 1937, on petition of the Selectmen for the building of additional stone jetties at Pilgrim Beach.

On August 3, 1937, a contract was made with Louis A. Byrne for the construction of three stone jetties on the shore of this beach, at a contract price of \$4.15 for each ton of 2000 pounds of granite stone riprap and granite chips furnished and placed in the jetties. This work was completed September 21, 1937, at a contract cost of \$3,787.08. Toward this cost a contribution of \$1,000 each was made by the town and county.

VINEYARD HAVEN HARBOR, TISBURY

The dredging in Vineyard Haven Harbor requested by the Selectmen in the petition filed in 1936, was adopted as a PWA project toward the cost of which the Federal Government agreed to make a contribution of 45 per cent.

On December 8, 1936, a contract was made with the Bay State Dredging and Contracting Company to dredge an anchorage basin about 1400 feet long, 300 feet wide and 6 feet deep at mean low water, at the following contract prices: for dredging and disposing of the dredged material 26.7 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed April 8, 1937, at a contract cost of \$16,302.76.

WAQUOIT BAY, FALMOUTH AND MASHPEE

The building of a stone jetty on the westerly side of the entrance to Waquoit Bay in Falmouth, under contract of October 27, 1936, with Frederick V. Lawrence, was completed March 9, 1937, at a contract cost of \$19,102.17. Toward this cost a contribution of \$10,000 was made by the town of Falmouth.

Hearing was held in January 1936, upon a petition of the Selectmen of Mashpee for dredging in Waquoit Bay to provide a channel into Hamblen Pond.

On December 18, 1936, a letter contract was made with George H. Boyd and Edward R. Jones to dredge a channel at Dr. Warren's Point, so called, on the Mashpee side of Waquoit Bay, to a depth of 3 feet at mean low water and a width of 20 feet on the bottom, at a contract price of 50 cents per cubic yard. Toward the cost of the dredging contributions have been made of \$350 by the town of Mashpee and of \$150 by individuals, but the dredging has not been completed.

WELLFLEET SHORE PROTECTION

Hearing was held January 27, 1937, on petition of the Selectmen for the building of jetties to check erosion along the Wellfleet shore.

On June 29, 1937, a contract was made with Louis A. Byrne for building eight stone jetties on the shore at Wellfleet Harbor, at a contract price of \$3.37 for each ton of 2000 pounds of granite stone riprap and granite chips furnished and placed in the jetties. This work was completed September 14, 1937, at a contract cost of \$5,230.88. Toward this cost a contribution of \$1,500 each was made by the town and by the county.

WEST CHOP, TISBURY

Work under contract of November 25, 1936, with Frederick V. Lawrence for the placing of riprap at the base of the bank at West Chop, was completed February 13, 1937, at a contract cost of \$5,719.14. Toward this cost a contribution amounting to \$2,000 was made by property owners and a contribution of \$1,000 by the town.

WILD HARBOR, FALMOUTH

Hearing was held January 27, 1937, on petition of the Selectmen for dredging at Wild Harbor and for the building of a bulkhead at New Silver Beach.

On August 3, 1937, a contract was made with Herbert T. Gerrish to dredge a channel and shoals in Wild Harbor,—the channel to a depth of 8 feet at mean low water, 110 feet wide on the bottom at the outer end and 65 feet wide on the bottom from the jetty into the harbor. Certain shoals within the basin are to be removed to a depth of 6 feet at mean low water. The contract prices for the work are: for dredging and disposing of the dredged material on marsh or flats by the hydraulic process, 70 cents per cubic yard, measured in place; for removing and disposing

of boulders \$20 per cubic yard. This work was completed October 5, 1937, at a contract cost of \$4,886.70. Toward this cost a contribution of \$2,500 was made by the town.

YARMOUTH SHORE PROTECTION

The work of placing heavy stone riprap and stone chips along the shore at South Yarmouth Beach, under contract of October 6, 1936, with J. W. Nickerson was completed January 6, 1937, at a contract cost of \$6,881.57. Toward this cost contributions of \$2,000 each were made by the town and by the county.

Miscellaneous

GREAT PONDS

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by Chapter 318 of the Acts of 1888. This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was later given by Chapter 379, Acts of 1904, now section 2, Chapter 91, General Laws.

During the year the Department has considered matters relating to: Alum Pond, Sturbridge; Bartlett Pond, Plymouth; Benton Pond, Otis; Big Pond, Otis; Congamond Lake, Southwick; Crossmans Pond, Kingston; Foster's Pond, Andover; Great Pond, Otis; Lake George, Wales; Lead Mine Pond or Quassac Lake, Sturbridge; Lower Naumbeag Pond, Ashburnham; Manchaug Lake, Douglas; Mary's Pond, Marion and Rochester; Musquashiat Pond, Scituate; Neck Pond, Kingston; Onota Lake, Pittsfield; Oyster Pond, Edgartown; Three Mile Pond or Brush Hill Pond, Sturbridge; Wenham Pond, Carver; Whalom Lake, Leominster; White Pond, Chatham; White Pond, Concord.

Surveys were made this year of the following great ponds:

Three Mile Pond, Sheffield

Area at time of survey	18.02 acres
Natural pond area	18.02 acres
Maximum depth	14.2 feet

White Pond, Concord

Area at time of survey	40.81 acres
Natural pond area	40.81 acres
Maximum depth	69.0 feet

Crossman's Pond, Kingston

Area at time of survey	19.81 acres
Natural pond area	12.93 acres
Maximum depth	9.8 feet

Billings Pond or Lake Wolomolopoog, Sharon

Area at time of survey	14.78 acres
Natural pond area	14.78 acres
Maximum depth	19.8 feet

Access to Great Ponds

Petitions have been pending this year signed by ten or more citizens of the Commonwealth requesting the establishment of a right of way for public access to Three Mile Pond or Brush Hill Pond in the town of Sheffield, White Pond in the town of Chatham and White Pond in the town of Concord. Hearing upon these petitions has been delayed to allow surveys to be made of these ponds. The surveys are now completed and public hearing is to be held early in December.

PROVINCE LANDS

By Chapter 470 of the Acts of 1893 the Board of Harbor and Land Commissioners was given general care and supervision of an area containing about 3,810 acres known as the Province Lands at Provincetown. At that time the area was stripped of trees, denuded of vegetation and the loose sand carried by the wind was filling ponds and menacing the harbor.

The work of reclaiming these lands was begun in 1894 and has been carried on ever since under the direction of the Board of Harbor and Land Commissioners and the successors to its powers and duties. A superintendent at Provincetown is in immediate charge of the work.

At present the first method followed is to check the movement of sand by covering the dune with brush which provides enough protection for the natural re-seeding of the beach grass. This work is followed by the transplanting of shrubs of which bayberry has been found very valuable for holding the sand particularly along the slopes of the dunes. After this preparation is completed the transplanting of trees begins and the reforesting of the area. In this way about 1,200 acres of these lands have been reclaimed.

During the year the work has been continued in accordance with these methods. Brush secured by clearing dead trees and brush from old forested areas has been spread over five acres of sand dunes. Five hundred bayberry shrubs have been transplanted, 10,000 pitch pines taken from the nursery to the dunes and 15,000 native pitch pine seedlings removed from the forest to the nursery to increase their fibrous root growth before planting them upon the dunes. Seedling Scotch broom has been used for roadside planting and native seed of sand peas, sumach and broom has been sown broadcast over the dunes.

The destruction of gypsy moth egg clusters and brown tail moth nests has been continued during the year.

The dike at Race Run has been repaired, parking areas and roadsides kept in condition and an additional mile of combination fire stop and truck trail built with sand piles for fire protection.

The sum of \$102.50 has been paid into the State Treasury this year from licenses issued for cultivating and picking cranberries on the bogs, for mowing meadows, and from permits for occupying areas on these lands.

STATE BOUNDARY LINES

This year bound No. 42, Attleboro-Pawtucket "F" on the Massachusetts-Rhode Island State line, was moved westerly, and bound No. 43, Attleboro-Pawtucket "F" was moved easterly because of new highway construction.

For a similar reason bound No. 187 on the Connecticut-Massachusetts State line was moved 40.46' westerly.

TOWN BOUNDARY LINES

During the year a new bound was set on the Needham-Wellesley town line to take the place of Needham-Wellesley 1 witness mark removed because of highway construction.

The Brewster-Orleans town line was redetermined and bounds reset in conformity with Chapter 356 of the Acts of 1935.

CONSERVING AND EQUALIZING THE FLOW OF WATER
IN RIVERS AND STREAMS

By Chapter 359, Acts of 1909, Chapter 564, Acts of 1912, and Chapter 84, Resolves of 1917, co-operation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, so that results of work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by said survey have been obtained for use by the Department and are avail-

able for other Departments of the Commonwealth. Toward the cost of this work the Department has paid during the year \$5,000.

RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS

By section 33, Chapter 91 of the General Laws, the Department is authorized to make such surveys and to do such other work as may be required by any order of the Land Court, to re-establish and permanently mark certain triangulation points and stations previously established in connection with the topographical survey of the Commonwealth, and the town boundary survey, which have been lost or destroyed and to obtain the geographical position of such new points and stations as may be required from time to time by the Court.

During the year the appropriation for this purpose has been used in conjunction with WPA funds to re-determine and mark triangulation stations in the southeastern part of the State.

MARINE BORER INVESTIGATION

The Department has this year continued its co-operation with the New England Committee on Marine Piling investigation and has maintained test boards in tide water at various locations in the State to determine the extent of the activities of the marine worms.

Examinations have been made by engineers of the Department of all pile and timber structures in tide water in the cities of New Bedford and Fall River. The investigation showed considerable damage to many of these structures. Conditions at one wharf in New Bedford were so serious that repairs were ordered and the use of the pier curtailed until the work was completed. In a few instances wharves were found in such unsafe condition from the depredations of the marine borers that owners were no longer using the structures.

LICENSES AND PERMITS

During the year 83 licenses were granted for work to be done in tide waters, great ponds, Connecticut River and Merrimack River, and 126 permits for miscellaneous purposes. The Department also approved 104 permits granted by cities and towns for the construction and maintenance of fish weirs in tide water.

FEDERAL APPROPRIATIONS AND EXPENDITURES

Federal appropriations and expenditures for the improvement of rivers and harbors in Massachusetts from the establishment of the Government to the close of the fiscal year ending June 30, 1937, are shown in the following tables furnished by the Chief of Engineers, U. S. Army:—

TABLE NO. 1—*Localities at which work was done during Fiscal Year 1937*

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Newburyport Harbor	\$595,788.30	\$692,708.13
Gloucester Harbor and Annisquam River	593,147.44	593,147.44
Mystic River	812,213.00	816,684.84
Boston Harbor	15,806,123.51	15,834,058.72
Weymouth Fore River	865,403.23	904,650.00 ¹
Cape Cod Canal	29,542,790.33	30,319,202.51
Pollock Rip Shoals, Nantucket Sound	1,526,776.34	1,527,029.26
Chatham Harbor	31,571.36	31,571.36
Harbor of Refuge at Nantucket	773,965.53	773,965.53
Hyannis Harbor	224,450.36	224,450.36
Vineyard Haven Harbor	82,573.47	82,573.47
Total	\$50,854,802.87	\$51,800,041.62

¹ Exclusive of \$100,000 contributed funds.

TABLE NO. 2—*Localities at which work is not now in progress*

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Lynn Harbor	\$814,750.77	\$814,750.77
Plymouth Harbor	511,253.36	511,253.36 ¹
Cross Rip Shoals, Nantucket Sound	48,837.20	48,837.20
New Bedford and Fairhaven Harbors	1,812,385.05	1,812,385.05
Fall River Harbor	790,149.49	790,149.49
Taunton River	383,838.10	383,838.10
Merrimack River	404,466.72	404,466.72
Malden River	149,950.00	149,950.00 ²
Sandy Bay, Cape Ann, Harbor of Refuge	1,941,478.00	1,941,478.00
Bass River	20,150.41	20,150.41
Buzzards Bay Harbor (Weepecket Rock)	2,500.00	2,500.00
Canapitset Channel	9,112.54	9,112.54
Cohasset Harbor	10,000.00	10,000.00
Duxbury Harbor	37,000.00	37,000.00
Edgartown Harbor (Marthas Vineyard)	30,000.00	30,000.00
Essex River	30,000.00	30,000.00
Hingham Harbor	38,316.58	38,316.58
Ipswich River	5,617.91	5,617.91
Kingston Harbor	8,940.09	8,940.09
Little Harbor, Woods Hole	18,000.00	18,000.00
Manchester Harbor	23,985.57	23,985.57
Marblehead Harbor	584.00	584.00
Powow River	50,940.72	50,940.72
Rockport Harbor	91,229.25	91,229.25
Town River	37,577.41	37,577.41
Wareham Harbor	95,997.30	95,997.30
Wellfleet Harbor	11,365.57	11,365.57
Westport Harbor and River	3,000.00	3,000.00
Winthrop Harbor	9,000.00	9,000.00
Woods Hole Channel	343,599.92	343,599.92
Beverly Harbor	246,690.41	246,690.41 ³
Salem Harbor	107,956.57	107,956.57
Dorchester Bay and Neponset River	128,176.44	128,176.44
Weymouth Back River	27,000.00	27,000.00
Scituate Harbor	126,590.98	126,590.98
Provincetown Harbor	348,062.72	348,062.72
Total	\$8,718,503.08	\$8,718,503.08

¹ Exclusive of \$108,400 contributed funds.² Exclusive of \$ 62,000 contributed funds.³ Exclusive of \$100,000 contributed funds.*Recapitulation*

	<i>Expenditures</i>	<i>Appropriations</i>
Total of Table No. 1	\$50,854,802.87	\$51,800,041.62
Total of Table No. 2	8,718,503.08	8,718,503.08
Total	\$59,573,305.95	\$60,518,544.70

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CONTRACT No.	Work	Contractor	Date
457	Commonwealth Pier 5, South Boston—reconstruction of platforms	Merritt-Chapman & Scott Corp.	Dec. 13, 1935
463	Commonwealth Pier 5, South Boston—reconstruction of platforms and pile protection at Head House	Bay State Dredging & Contracting Co.	July 14, 1936
465	Cotuit Harbor, East Bay, Lewis Bay, Barnstable—dredging	Bay State Dredging & Contracting Co.	July 1, 1936
467	Popponesset Bay, Barnstable, dredging channel and basin	Herbert T. Gerrish	July 21, 1936
468	Waquoit Bay, Falmouth—stone jetty	Frederick V. Lawrence	Oct. 27, 1936
470	Manchester Harbor—dredging	J. S. Packard Dredging Co.	Sept. 8, 1936
474			
475	Megansett Harbor, Falmouth—stone break-water	George M. Bryne	Sept. 8, 1936
476	Dennisport Shore—stone jetties	H. & J. Construction Co.	Sept. 22, 1936
477	South Yarmouth Beach—stone riprap	J. W. Nickerson	Oct. 6, 1936
478	Falmouth Shore protection—opposite Shore Street	Turner & Breivogel	Oct. 6, 1936
479	Roughan's Point, Revere—sea wall	M. F. Gaddis, Inc.	Nov. 17, 1936
480	Vineyard Haven Harbor, Tisbury—dredging	Bay State Dredging & Contracting Co.	Dec. 8, 1936
481	Sengekontacket Pond, Oak Bluffs—dredging channel, building jetties, and bridge.	Turner and Breivogel	Dec. 8, 1936
482	Harwichport—stone jetties	Frederick V. Lawrence	Nov. 17, 1936
483	West Chop, Tisbury—shore protection	Frederick V. Lawrence	Nov. 25, 1936
485	Gloucester Fish Pier—construction and dredging of approaches	Bay State Dredging & Contracting Co.	Apr. 6, 1937
486	Pemberton Point Sea Wall, Hull—repairs	Karl M. Fredrickson	Mar. 26, 1937
487	West Bay, Barnstable—dredging	Bay State Dredging & Contracting Co.	June 7, 1937
489	Lewis Bay, West Yarmouth—Dredging	Bay State Dredging & Contracting Co.	June 7, 1937

Condition of Work	Contract Price
Completed May 26, 1937	Unit prices.
Completed March 1, 1937	For removing existing platform, including piling and other structures, including all incidental work, the lump sum of \$4500.
Completed May 6, 1937	Unit prices. For dredging and disposing of dredged material 81 cents per cubic yard, scow measurement.
Completed June 9, 1937	For removing and disposing of boulders \$20 per cubic yard For dredging and disposing of excavated material on marsh and flats by the hydraulic process, including the construction of the necessary dikes and sluices or other barriers, 52 cents for each cubic yard of material measured in place.
Completed March 9, 1937	For removing and disposing of all boulders \$20 for each cubic yard.
Completed Apr. 29, 1937	For each ton of heavy stone riprap and stone chips furnished in place in the completed work, \$3.24. For dredging and disposing of dredged material, 55 cents per cubic yard, scow measurement.
Completed Feb. 10, 1937	For removing and disposing of boulders \$20 per cubic yard.
Completed Jan. 8, 1937	For each ton of heavy stone riprap furnished in place in completed work, \$3.45 for each ton of 2,000 pounds.
Completed Jan. 6, 1937	For furnishing and placing granite stone riprap and chips in the jetties, including all incidental work, \$3.75 for each ton of 2,000 pounds.
Completed Dec. 9, 1936	For each ton of stone riprap and stone chips furnished and placed in completed work, \$2.99 for each ton of 2,000 pounds. For steel sheet piling furnished and driven in completed work, \$74.01 for each ton of steel sheet piling.
Completed July 29, 1937	For all reinforcing steel furnished and placed in concrete cap 7.8 cents for each pound. For furnishing material and constructing concrete cap, including all incidental work, \$17.29 for each cubic yard of concrete measured in place in the completed work. For furnishing and driving steel sheet piling \$80 for each ton in completed work.
Completed Apr. 8, 1937	For furnishing materials for constructing concrete sea wall and stair wells including forms, tie rods, steel reinforcement, excavation and all incidental work, \$15 for each cubic yard of concrete measured in place in completed work.
Completed July 24, 1937	For furnishing and placing granite stone riprap and chips against sea side of sea wall, \$2.20 for each ton of 2,000 pounds in place in completed work. For furnishing materials for filling in place back of sea wall, including all incidental work, \$.60 for each cubic yard measured in place in completed work. For furnishing and setting each granite stone step in place, including all incidental work, \$18 for each step in place in completed work.
Completed Dec. 4, 1936	For dredging and disposing of dredged material 26.7 cents per cubic yard, scow measurement.
Completed Feb. 13, 1937	For removing and disposing of boulders, \$20 per cubic yard.
In progress	For material excavated in channel and disposed of within disposal areas, 45 cents per cubic yard. For removing and disposing of all boulders, \$3.50 per cubic yard. For each ton of heavy stone riprap and chips furnished in place in completed work, \$4.50 per ton. For constructing by-pass, including all materials, plant, equipment, lights, etc. \$285. For building bridge and approaches—unit prices.
Completed May 4, 1937	For furnishing and placing granite stone riprap and chips in the jetties, \$3.15 for each ton of 2,000 pounds. For each ton of 2,000 pounds of stone riprap or chips furnished in place in the completed work, \$5.10. For removal and disposal of existing structures, the lump sum of \$9,500. For dredging and disposing of material outside site of work, 28 cents per cubic yard, scow measurement. For dredging and disposing of material in areas to be filled, 20 cents per cu. yd. scow measurement. For removing boulders, \$5 per cubic yard. For removing ledge, \$35 per cubic yard, place measurement. For building pier—unit prices.
Completed July 29, 1937	For furnishing all labor and materials and building concrete footing under and in front of existing wall, including all excavation, back filling and incidental work, \$12 for each cubic yard of concrete placed in completed work.
Completed July 10, 1937	For furnishing all labor, materials, tools and equipment and doing all work necessary to patch the existing sea wall and fill the construction joints, the lump sum of \$100. For each ton of new stone riprap or chips furnished in place in the completed work, \$1.44 per ton of 2,000 pounds. For rehandling existing riprap and replacing it within the new work, including all incidental expense, the lump sum of \$15.00. For dredging and disposing of dredged material, 65 cents per cubic yard, scow measurement.
	For removing and disposing of boulders, \$20 per cubic yard.
	For dredging and disposing of the dredged material 51 cents per cubic yard, scow measurement.
	For removing and disposing of boulders, \$20 per cubic yard.

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CONTRACT No.	Work	Contractor	Date
490	Wollaston Dredging	J. S. Packard Dredging Co.	June 7, 1937
491	Dorchester Bay—dredging at Savin Hill Yacht Club	Bay State Dredging & Contracting Co.	June 7, 1937
492	Weymouth Fore River—Quincy and Weymouth—dredging	J. S. Packard Dredging Co.	June 7, 1937
493	East Bay, Barnstable—timber fence westerly of west jetty	Harry L. Jones	Oct. 27, 1937
494	Wellfleet Shore Protection—stone jetties	Louis A. Byrne	June 29, 1937
495	Gloucester Fish Pier—furnishing and installing equipment in the Stores Building and the Cold Storage Building	Frick Company	Aug. 3, 1937
496	Commonwealth Pier 5—fence in examination room	P. J. Dinn & Co.	July 13, 1937
498	Hyannis Harbor, Barnstable—dredging anchorage basin	Herbert T. Gerrish	July 14, 1937
499	Malden River—Dredging	Herbert T. Gerrish	July 13, 1937
500	Lobster Cove, Gloucester,—dredging	Bay State Dredging & Contracting Co.	July 14, 1937
501	Falmouth Heights & Menauhant Shore, Falmouth—stone jetties	Frederick V. Lawrence	July 14, 1937
502	Oak Bluffs—stone jetty near Nantucket Avenue	Turner & Breivogel	Aug. 3, 1937
503	Pilgrim Beach, Truro—stone jetties	Louis A. Byrne	Aug. 3, 1937
504	Katama Bay, Edgartown—excavation of channel	Turner & Breivogel	Aug. 3, 1937
505	Wild Harbor, Falmouth—dredging	Herbert T. Gerrish	Aug. 3, 1937
506	Brewster Shore—riprap	George M. Bryne	Aug. 25, 1937
507	Dennis Shore—stone jetties at Dennisport and Sesuit	George M. Bryne	Aug. 25, 1937
508	Harwich Shore—building stone jetty, repairing and extension of other jetties	Frederick V. Lawrence	Sept. 14, 1937
509	Gloucester Fish Pier—Stores building and Cold Storage building	H. L. Hauser Building Co., Inc.	Oct. 5, 1937
510	Barnstable—stone jetties at Squaw Island Road	Frederick V. Lawrence	Oct. 13, 1937
511	South Hyannis, Barnstable—stone jetty and riprap	George M. Bryne	Oct. 27, 1937
512	Malden River, Malden—dredging channel	North Atlantic Dredging Co.	Oct. 26, 1937
513	New Bedford State Pier—repairs to walls and windows	Maurice M. Devine, Inc.	Oct. 27, 1937
514	New Bedford State Pier—repairs to roof of steel shed.	John F. Shea Company, Inc.	Oct. 27, 1937
515	Witchmere Harbor and Herring River, Harwich—repairs to stone jetties	Louis A. Byrne	Oct. 27, 1937
516	Commonwealth Pier 5—resurfacing portions of floors	Warren Bros. Roads Co.	Nov. 2, 1937

AND IN FORCE DURING THE YEAR ENDING NOVEMBER 30, 1937

Condition of Work	Contract Price
Completed July 16, 1937	For dredging and disposing of dredged material 47 cents per cubic yard, scow measurement.
Completed July 3, 1937	For removing and disposing of boulders \$25 per cubic yard. For dredging and disposing of dredged material 45 cents per cubic yard, scow measurement.
Completed Aug. 30, 1937	For removing and disposing of boulders \$20 per cubic yard. For dredging and disposing of dredged material 58 cents per cubic yard, scow measurement.
In progress	For removing and disposing of boulders \$25 per cubic yard. For building timber fence 150 feet long, including all material, the furnishing of all plant, tools, labor and equipment and incidental work, the lump sum of \$494.76.
Completed Sept. 14, 1937	For furnishing and placing granite stone riprap and granite chips in the jetties, including all incidental work, \$3.37 for each ton of 2000 pounds in completed work.
In progress	For furnishing and installing in complete working order, in the Stores Building, and the Cold Storage Building at the Gloucester Fish Pier, the entire equipment required by specifications and plans, including all incidental work, the lump sum of \$207,186.00.
Completed Aug. 4, 1937	For furnishing all labor, materials, tools and equipment and performing all work necessary to construct and install complete a wire fabric fence in examination room, the lump sum of \$686.
Completed Nov. 30, 1937	For dredging and disposing of dredged material within disposal area or on marsh or flats by hydraulic process, including construction of necessary dikes and sluices or other barriers, 53 cents per cubic yard measured in place. For removing and disposing of boulders, \$20 per cubic yard.
Completed Oct. 21, 1937	For dredging and disposing of the dredged material on shore 44 cents per cubic yard measured in situ.
Completed Aug. 3, 1937	For removing and disposing of boulders \$20 per cubic yard. For dredging and disposing of dredged material 56 cents per cubic yard, scow measurement.
Completed Sept. 9, 1937	For removing and disposing of boulders \$20 per cubic yard.
Completed Sept. 20, 1937	For furnishing and placing granite stone riprap and chips in the jetties, \$3.24 for each ton of 2000 pounds.
Completed Sept. 21, 1937	For each ton of heavy stone riprap and stone chips furnished in place in completed work, \$4.95 for each ton of 2000 pounds.
Completed Aug. 30, 1937	For furnishing and placing granite stone riprap and granite chips in jetties, \$4.15 for each ton of 2000 pounds. For excavating channel, including disposition of all material, furnishing of all plant, tools, equipment and incidental work, the lump sum of \$1,745 for the completed work.
Completed Oct. 5, 1937	For dredging and disposing of excavated material on marsh or flats by hydraulic process, including construction of necessary dikes and sluices or other barriers, 70 cents per cubic yard of material measured in place.
Completed Oct. 12, 1937	For removing and disposing of boulders \$20 per cubic yard. For furnishing and placing heavy granite stone riprap and granite stone chips in the completed work, including all incidental work, \$3.08 for each ton of 2000 pounds.
Completed Nov. 6, 1937	For furnishing and placing heavy granite stone riprap and granite stone chips in the jetties, including all incidental work, \$3.08 for each ton of 2000 pounds.
Completed Nov. 9, 1937	For furnishing and placing granite stone riprap and chips in jetty, extension of two jetties and repairs to other jetties, \$3 for each ton of 2000 pounds.
In progress	For furnishing crane, operator, two men and all incidental work in rebuilding one jetty, \$7 for each hour for crane, operator and two men.
In progress	For furnishing materials and erecting complete in place the Stores Building above the piles and the Cold Storage Building above Elevation 8, with appurtenant structures and equipment, the lump sum of \$439,704; for excavation, foundations, steel concrete piles, etc., unit prices.
Completed Nov. 15, 1937	For furnishing and placing granite stone riprap and chips in jetties and returns, including all incidental work, \$2.70 for each ton of 2000 pounds in the completed work.
In progress	For each ton of 2000 pounds of granite stone riprap and granite stone chips placed in the completed work, \$2.47. For dredging and disposing of dredged material on shore 45 cents for each cubic yard measured in situ.
In progress	For removing and disposing of boulders \$20 for each cubic yard. For removing existing plaster and applying gunite, the lump sum of \$1,100.
In progress	For removing existing plaster and applying gunite to certain portions of wall as directed by Engineer, 40 cents per square foot of wall surface. For applying flash coat of gunite to other portions of wall, 30 cents per square foot of surface.
In progress	For removing five old window sash and furnishing and installing five new window sash, the lump sum of \$275.
In progress	For each square foot of 5-ply tar and gravel roofing furnished and placed, including all labor, materials and incidental work, 11 cents per square foot.
In progress	For replacing old planks with new, including all labor, material and fastenings, 10 cents per square foot.
In progress	For each square foot of copper furnished and placed, 50 cents per square foot.
In progress	For furnishing and placing broken stone in the jetties, including all incidental work, \$3.70 for each ton of 2000 pounds in the completed work.
In progress	For each cubic yard of material excavated and back filled in the completed work, including all incidental work, 80 cents per cubic yard.
In progress	Unit prices.

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